

Critical Release Notice

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The content of this customer NTP supports the
SN07 (DMS) software release.

Bookmarks used in this NTP highlight the changes between the NA015 baseline and the current release. The bookmarks provided are color-coded to identify release-specific content changes. NTP volumes that do not contain bookmarks indicate that the NA015 baseline remains unchanged and is valid for the current release.

Bookmark Color Legend

Black: Applies to content for the NA015 baseline that is valid through the current release.

Red: Applies to new or modified content for NA017 that is valid through the current release.

Blue: Applies to new or modified content for NA018 (SN05 DMS) that is valid through the current release.

Green: Applies to new or modified content for SN06 (DMS) that is valid through the current release.

Purple: Applies to new or modified content for SN07 (DMS) that is valid through the current release.

Attention!

Adobe Acrobat Reader 5.0 or higher is required to view bookmarks in color.

Publication History

***Note:** Refer to the NA015 baseline document for Publication History prior to the NA017 software release.*

December 2004

Standard release 18.02 for software release SN07 (DMS). Updates made for this release are shown below:

Volume 1-12

No changes

Volume 13

Added Virtual Office Worker (VOW) by A00002011

Volume 14-16

No changes

Volume 17

Universal Access to Call Forwarding (UCFW) changes to AMA billing by CR Q00982215

Volume 18-23

No changes

Volume 24

Added OSSAIN XA-Core Data Messaging Capacity Enhancements by A00005160

Volume 25

No changes

September 2004

Preliminary release 18.01 for software release SN07 (DMS). Updates made for this release are shown below:

Volume 1

Modified – Introduction to trunk tables (ES trunk groups) by CR Q00838215-1

Volume 2-3

No changes

Volume 4

Modified – Datafilling Trunk Signaling (ISUP Hop Counter) by CR Q00760514-10

Volume 5-10

No changes

Volume 11

Modified – Datafilling MDC Minimum (Call Pickup) by CR Q00879738

Volume 12

Modified – Datafilling MDC MSAC (Do Not Disturb) by A00002196

Volume 13-15

No changes

Volume 16

Modified – Datafilling ACD Base (Base automatic call distribution) by CR Q00812364

Volume 17

Modified – Datafilling RES Advanced Custom Calling (900 FP) by CR Q00834222

Modified – Datafilling RES Advanced Custom Calling (CSMI) by CR Q00683891

Modified – Datafilling RES Advanced Custom Calling (CWAS) by CR Q00891675-01

Modified – Datafilling RES Advanced Custom Calling (Enhanced CSMI) by CR Q00683891

Volume 18

No changes

Volume 19

Modified – Datafilling RES Service Enablers (SLE) by CR Q00760256

Volume 20

Modified – Datafilling Emergency Number Services (E911 Wireless ALI Interface) by CR Q00856825

Volume 21-24

No changes

Volume 25

Modified – Datafilling Unbundling (UNBN OPTRANS and EA) by A00002765

March 2004

Standard release 17.03 for software release SN06 (DMS). Updates made for this release are shown below:

Volume 1- 9

No changes

Volume 10

Changes due to CR Q00757372, which clarifies the applicability of the AUDTRMT option. The changes are in sections:

- 7 Datafilling NI0 NI-2 PRI, PRI Call Screening
- 8 Datafilling NI0 ISDN PRI Base, Flexible Digit Analysis
- 8 Datafilling NI0 ISDN PRI Base, PRI ISDN Treatments
- 9 Datafilling NI0 ISDN PRI CNAM, PRI SUSP for CNAME

Volume 11-16

No changes

Volume 17

Modified - Call Screening, Monitoring, and Intercept (CSMI) for Q00659151

Modified - RES Simultaneous Ringing for Q00715967.

Modified - Usage Sensitive Three-way Calling (U3WC) for Q00703423-03.

Volume 18

Changes to Chapter 1 - Datafilling RES Display Functionality and Privacy, Anonymous Caller Rejection (ACRJ) as follows:

- change to description of interaction with Call Forwarding Don't Answer (CFDA) for CR Q00773476

- change to description of interaction with SOC RES00011 for CR Q00735537.

Volume 19

Changes due to CR Q00735537, which shows the interaction of various services with SOC RES00011. The changes are in Chapter 1 – Datafilling RES non-display services, and the affected services are:

- Distinctive Ringing/Call Waiting (DRCW)

- Selective Call Acceptance (SCA)

- Selective Call Forwarding (SCF)

- Selective Call Rejection (SCJ)

Volume 20

Changes due to CR Q00757372, which clarifies the applicability of the AUDTRMT option. The changes are in section:

- 2 Datafilling Emergency Number Services, E911 PRI PSAP Delivery

Volume 21-25

No changes

September 2003

Standard release 17.02 for software release SN06 (DMS). Updates made for this release are shown below:

Volume 1

New - Panther support for third-party RMs

Modified - E911 trunk groups

Volume 2-11

No changes

Volume 12

Modified - Query Functional Station Grouping

Volume 13-14

No changes

Volume 15

Modified - VMX Interface

Volume 16

No changes

Volume 17

Modified - Call Screening, Monitoring, and Intercept (CSMI)

Modified - Enhanced CSMI

Modified - Long Distance Alerting

Modified - Long Distance Alerting Enhancement (LDAE)

Modified - Service Order Simplification for MADN Extension Bridging

Volume 18

Modified - Call Logging (CALLOG) Modified - Universal Voice Messaging

Modified - Voice Mail Easy Access (VMEA)

Volume 19

Modified - CMS AR Screening of Private Calls (CASOP)

Modified - In-Session Activation (ISA)

Volume 20

Modified - DMS Integrated E911 PSAP Functionality

Modified - E911 Incoming Wireless Calls

Modified - E911 Incoming Wireless Calls (MF)

Modified - E911 ISUP Parameter Enhancements

Volume 20 (continued)

Modified - E911 ISUP Trunking

Modified - E911 Tandem

Modified - E911 Translations Robustness

Modified - VFG Support for E911 (LOC and/or ISUP/ANI Call)

Volume 21-25

No changes

June 2003

Preliminary release 17.01 for software release SN06 (DMS). Updates made for this release are shown below.

New Critical Release Notice added.

Volume 1-25

No changes

297-8021-350

DMS-100 Family

North American DMS-100

Translations Guide Volume 13 of 25

Meridian Digital Centrex (MDC) Part 3 of 6

LET0015 and up Standard 14.02 May 2001

DMS-100 Family

North American DMS-100

Translations Guide Volume 13 of 25

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1 Datafilling MDC Standard (continued)

The following chapter is a continuation of the description of the MDC Standard, MDC00003, functionality.

Group Number Feature Control

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS26 and later versions

Requirements

To operate, Group Number Feature Control has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

End users with the Call Pickup (CPU), Speed Calling User (SCU), and hunt group features can improve efficiency with Group Number Feature Control. End users improve efficiency in determining how to create, modify and query CPU, SCU, and hung groups with the addition of Group Number Feature Control. With the initial establishment of the group, the Group Number Feature Control lets end users assign a group number for each group type. End users can handle changes easier through the Service Order system (SERVORD) when changes and modifications are a requirement. This feature provides an improved query system. The query system also operates through SERVORD.

The CPU, SCU, and hunt group features are in use by end users with IBN/MDC systems. Due to the functional nature of these groups, group members generate a large amount of SERVORD activity. Frequent changes in group member information cause group members to generate a large amount of SERVORD activity.

For the heavy work load, SERVORD is more efficient for the user. SERVORD now provides more prompts, user messages, and query abilities. Before this feature, the best method to provide information about the different group members was to query a line equipment number (LEN) or directory number (QDN) for the selected group. When changes were made to the group, the LEN of an consent member was a requirement to tie a new member to the group.

Group Number Feature Control affects some hunt groups. These groups affected are multiline hunt (MLH), distributed line hunt (DLH), directory number hunt (DNH), and bridged night number (BNN) hunt groups.

Group Number Feature Control (continued)

When a CPU, SCU, or a hunt group is first assigned, the end user receives a prompt to enter a group number. The BNN hunt groups must link to a DLH, MLH, or DNH. The link occurs by identifying the DN or LEN of the host in the linked hunt group member. Enter the group number of the hunt group option to confirm the link.

**DANGER**

Read this entire document before proceeding with installation and activation.

Read this entire document before installation and activation of Group Number Feature Control.

Operation

Group Number Feature Control provides a different group number for each group. This unique group number serves as the primary key for access to group information. The SERVORD streamlines and simplifies the process of changes and modifications. The benefits apply to the operating company and the end users with the Customer Data Change (CDC) feature. To accomplish the preceding:

- assign a different number to each group at installation
- access group information by using the group number to make modifications
- query current group member information by the assigned group number

Note: The feature does not only apply to these hunt groups in IBN/MDC with 500/2500 and Meridian business sets (MBS). The feature applies to those with plain old telephone service (POTS).

This feature has an extensive storage capacity. Assign group numbers in a consecutive ascending order, starting with group number 1, for optimum use of this capacity. The group numbers for each type of group are separate from each other. There can be a group number 1 for CPU, SCU, and the hunt groups. Delete all members of the group and enter the new group number and member information to change a group number.

The operating company end user can assign group numbers to current CPU and SCU groups automatically. The operating company end user can activate the feature beginning with the GRPSETUP command from the CI prompt. The GRPSETUP command creates bulk data modification (DMO) files. The DMO files automatically assign group numbers to specified groups of CPU

Group Number Feature Control (continued)

and SCU lines. This action creates two files. For 500/2500 lines, a file is set up for table IBNFEAT. For MBS sets, a file is set up for table KSETFEAT.

Note: Perform the GRPSETUP command during periods of reduced traffic. The response time to the GRPSETUP command is long. The number of tuples in tables IBNFEAT and KSETFEAT that are searched for the current CPU, SCU, and hunt group tuples determine response time.

Table CUSTAREA requires data modification orders. Data modification orders are a requirement because of changes in tables IBNFEAT and KSETFEAT. The bulk DMO files that the GRPSETUP creates include the changes. The changes provide the information for processing the group members.



DANGER

You must lift write restriction for table CUSTAREA

Table CUSTAREA is restricted. The end user must lift the write restriction before performing the DMOPRO command. If the end user does not lift the write restriction, tables IBNFEAT and KSETFEAT are corrupt.

Use the current DMO system to process created DMO files. You can edit the files as currently available for other bulk DMO files before processing. Group number changes are the only recommended editing. All information on each member must remain intact.

With DMO file execution, the CI command GRPNUMON execution activates Group Number Feature Control. If the display is by group number and not by LEN, installation and activation are successful. To check, the end user uses a command to query by group number. An example of a command is QCPUGNO.

Note: Do *not* use commands GRPSETUP and GRPNUMON after execution. The design intent of Group Number Feature Control is that the feature remains activated after activation. Contact Technical Assistance Service (TAS) before deactivation plans.

The feature modifies the ability to query group member information for CPU, SCU, and hunt groups. The only current command that the feature directly affects is the command interpreter (CI) QGRP (query group) command. The QLEN (query line equipment number) and QDN (query directory number) commands are indirectly affected. The group number is part of the display. Two new commands, QCPUGNO (query CPU group number) and

Group Number Feature Control (continued)

QSCUGNO (query SCU group number), produce a display list. The display list includes all assigned CPU and non-special service (SS) SCU group members.

When adding new members or updating information about members, the group number is a requirement. The group number is a requirement when you update or add new information about members. You do not require the group number to delete a member from the group.

New hunt groups and updated member information provide two exceptions to the procedure. With the addition of a new member, the end user can insert the member into a specified position in the group. The end user receives a prompt with this selection. The DN or LEN of the line preceding the new member is a requirement if you select insertion. A group number is a requirement with a BNN hunt group. The group number shows the hunt group linked to the BNN. The linked group numbers are tied to a DNH, DLH, or MLH group.

Translations table flow

Group Number Feature Control does not affect translations table flow.

Limits

Group Number Feature Control has many limits. The end user must read this entire document before activating this feature. The following limits apply to Group Number Feature Control:

- The activation sequence requires use of the MAP CI level nonmenu command RWOK. Use of this command is restricted. Contact TAS for problems performing the RWOK command. Do not attempt to apply the DMO files without RWOK command execution.
- With group number assignment, to change the group number, delete all members of the group. Identify a new group number.
- When the end user selects the GRPSETUP command from the CI position, the response time is extremely long. Response time is based on the number of SCU and CPU tuples in tables IBNFEAT and KSETFEAT to search. With the selection of the GRPSETUP command, the utility that provides this option searches each IBN and MBS line. The utility searches for each IBN and MBS line that requires CPU, SCU, or both group numbers assignment. Some operation recommendations are:
 - Do not use during a period of peak traffic on the DMS-100 switch. The response time increases.
 - Make sure adequate data store for the file generation is present.

Group Number Feature Control (continued)

- Group Number Feature Control does not apply to subscriber services SCU groups.
- Service order processing involving CPU and SCU groups must discontinue during and after activating command GRPSETUP. Follow this procedure until the execution of DMO files. The continuation of SERVORD processing can cause a communication breakdown between the DMS-100 and DMO files. This breakdown results in erratic processing of DMO files.

Interactions

Group Number Feature Control does not affect CPU, SCU, and hunt groups.

Activation/deactivation by the end user

To install and activate Group Number Feature Control, the operating company end user must be familiar with the warnings that appear in "Limits" in this feature description. The end user must be familiar with the warning messages in "User interface" in this feature description. Warning messages periodically display information on the system status.

The activation sequence requires use of the MAP CI level nonmenu command RWOK. A restriction is present on this command. Contact DASH for problems with the RWOK command. Do not attempt to apply the DMO files without the RWOK command execution.

The design intent of Group Number Feature Control is that when activation occurs, activation remains. Contact TAS for additional information.



DANGER

Suspend service order processing

SERVORD processing that involves CPU and SCU must stop with this command. The SERVORD processing must remain inactive until the DMO file generates and processes the DMO file. If changes are made, recreate the DMO to make sure of consistency.

The operating company end user performs the following steps to activate Group Number Feature Control

Group Number Feature Control (continued)

Activation of Group Number Feature Control by the end user



DANGER

Follow all steps in this procedure.

Failure to follow all steps in this activation procedure in sequence can result in corruption of data tables and interruption of service.

At the MAP display

- 1 Create a plan for the control of the assignment of group numbers for SCU, CPU, and hunt groups.
Note: Implementation of the hunt group cannot occur until the activation sequence completes.
Response:
 Group number changes are minimized. A group number change requires the deletion of all members of the group and entry of the new group number and member information.
- 2 Make sure adequate data storage space is present for the generation of files.
Response:
 Eliminates disk storage space error messages.
- 3 Verify this period of low traffic on the DMS-100 switch
Response:
 An improvement in command response time occurs. The normal response time for the GRPSETUP command is from several minutes to a few hours.
- 4 Make sure that the MAP CI level prompt displays.
Response:
 CI :
- 5



DANGER

Check device name and file name

If a disk device is in use to store the files that this command creates, the following condition applies. The device name can be the same for the files in tables IBNFEAT and KSETFEAT. The files this command produces are very large and can exceed the disk capacity. With tape selection, you cannot duplicate the device name for both files.

Create an image file of the switch.

Response:

Group Number Feature Control (continued)

Provides a pre-activation image of the switch before issuing the GRPSETUP command.

To create the bulk DMO files, type

GRPSETUP <devicename1 filename1> <devicename2 filename2>

and press the Enter key.

where

devicename 1

is the device used to store the bulk DMO file for

table IBNFEAT

filename1

is the file name of the bulk DMO file used for table

IBNFEAT

devicename2

is the device used to store the bulk DMO file for

table KSETFEAT

filename2

is the file name for the bulk DMO file in table

KSETFEAT

Response:

The bulk DMO files are created.

- 6 To list the files created, type your correct device command

LISTSF

and press the Enter key.

Response:

The files appear. The list indicates that the files are successfully created.

- 7 To print the files created, type

PRINT <filename>

and press the Enter key.

Response:

The files print. The printing allows the operating company personnel to verify the content of the tuples in tables KSETFEAT and IBNFEAT.

- 8 Run DMOVER (DMO Verification) on the bulk DMO files, the GRPSETUP files. Verify the output and make corrections as required.

DMOVER <filename1>

and press the Enter key.

Response:

Group Number Feature Control (continued)

Make sure that group numbers in filename1 are in operating company plans for group number control.

9



DANGER

Lift write restriction for table CUSTAREA

Lift Table CUSTAREA is a restricted table. You must lift the write restriction with the RWOK ON command before you can execute the DMOPRO. If the end user does not lift the write restriction, tables IBNFEAT and KSETFEAT are corrupt.



DANGER

Do not edit restricted tables.

When the RWOK ON command is in use to turn read/write restrictions off, do not edit restricted tables. Table CUSTAREA is an example of a restricted table. To edit restricted tables can cause corruption of data tables and table control.

Run DMOVER (DMO Verification) on the bulk DMO files (the GRPSETUP files). Verify the output and make corrections as required.

DMOVER <filename2>

and press the Enter key.

Response:

Make sure that group numbers in filename2 are in operating company plans for group number control.

To turn on the write access to the data in restricted table CUSTAREA, type

RWOK ON

and press the Enter key.

If access to the RWOK command is not available, contact TAS or your regional field support personnel.

Response:

WRITE ACCESS ENABLED FOR RESTRICTED DATA

10

To run DMOPRO (DMO Program) on the first bulk DMO (GRPSETUP) file, type

DMOPRO <filename1>

and press the Enter key.

where

filename1

is the file name of the bulk DMO file in use for table IBNFEAT

Response:

Group Number Feature Control (continued)

- Tuples that you add, replace, and delete in tables CUSTAREA and IBNFEAT appear.
- 11** To run DMOPRO on the second bulk DMO (GRPSETUP) file, type
DMOPRO <filename2>
and press the Enter key.
where
filename2
is the file name for the bulk DMO file in table

KSETFEAT
Response:
Tuples that you add, replace, and delete in tables CUSTAREA and KSETFEAT appear.
- 12** To activate Group Number Feature Control, type
GRPNUMON
and press the Enter key.
Response:
Activation of Group Number Feature Control occurs. The design intent for this feature is that when activation occurs, the feature does *not* deactivate. Contact TAS for additional information.
- 13** To turn off the read/write access to the data in tables CUSTAREA and OFCOPT, type
RWOK OFF
and press the Enter key.
Response:
WRITE ACCESS DISABLED FOR RESTRICTED DATA
- 14** Make sure that the MAP CI level prompt appears.
Response:
CI:

User interface

Group Number Feature Control affects seven CI commands. The QGRP, QLEN, QDN, GRPSETUP, GRPNUMON, QCPUGNO, and QSCUGNO commands are part of the directory PROGDIR.

The enhanced QGRP command handles residential SCU group queries in offices with or without Group Number Feature Control. Commands QLEN and QDN are changed. The group numbers for CPU, SCU, or both members appear with the option data for the queried line.

Four commands are added with this feature. The commands are GRPSETUP, GRPNUMON, QCPUGNO, and QSCUGNO. The first two commands are in

Group Number Feature Control (continued)

use exclusively during feature setup and activation. The last two commands are query commands. Additional information on these commands follows.

The commands that are changed or new to this feature appear below. The information the command generates appears on the screen.

QGRP

This nonmenu command uses the group number assigned to the group at creation. Use the group number to access and display information on CPU, SCU, and DLH, DNH, or MLH groups. A defined new group type displays RES SCU groups. Command QGRP RESSCU is the same as command QGRP SCU. The LEN prompts replace the group number prompts. This command is a requirement because RES SCU groups do not have group numbers. The response is the same as QGRP SCU if an office does not have Group Number Feature Control. Add the RES SCU value to display information on RES SCU groups. The RES SCU value is correct in offices with subscriber services.

An example MAP (maintenance and administration position) display of the QGRP command for a RES SCU group appears in the following figure.

Example MAP display of the QGRP command for a RES SCU group

```
CI:
>QGRP RESSCU 0 1 23 4CONTROLLER

HOST 00 0 05 16
HOST 00 1 23 04
HOST 00 1 23 05
```

This SCU group contains these members. The output from this command does not change.

QLEN

A change occurs in this nonmenu command. The previous output from this command changes to display group numbers for CPU, SCU, and DLH, MLH, or DNH groups on the LEN being queried.

An example of a MAP display of the QLEN command appears in the following figure.

Group Number Feature Control (continued)

Example MAP display of the QLEN command

```
CI:
>QLEN 0 0 5 16
-----
LEN:      HOST 00 0 05 16
TYPE: SINGLE PARTY LINE
SNPA: 613
DIRECTORY NUMBER: 6216000
LINE CLASS CODE:  IBN
IBN TYPE:  STATION
CUSTGRP:      COMKODAK      SUBGRP:  0  NCOS:  0
SIGNALLING TYPE:  DIAL PULSE
CARDCODE:  2X17AB      GND:  N  PADGRP:  STDLN  BNV:
NL  MNO:  N
PM NODE NUMBER      :      20
PM TERMINAL NUMBER :      177
OPTIONS:
CPU 5 HOST 00 0 05 16
```

QDN

QDN is a nonmenu command. The only change is in the output. The output contains the CPU, SCU, and DLH, MLH, or DNH group number assigned to the DN being queried.

An example of a MAP display of the QDN command appears in the following figure.

Group Number Feature Control (continued)

Example MAP display of the QDN command

```

CI:
>QDN 6216000
-----
DN:          6216000
TYPE:        SINGLE PARTY LINE
SNPA: 613    SIG: DP          LNATTIDX: N/A
LINE EQUIPMENT NUMBER:          HOST 00 0 05 16
LINE CLASS CODE:          IBN
IBN TYPE:     STATION
CUSTGRP:          COMKODAK      SUBGRP: 0      NCOS: 0
CARDCODE: 2X17AA    GND: N      PADGRP: STDLN   BNV: NL
MNO: N
PM NODE NUMBER          :          20
PM TERMINAL NUMBER      :          177
OPTIONS:
CPU 5  HOST 00 0 05 16
-----

```

GRPSETUP

The installation of Group Number Feature Control command GRPSETUP provides the group number assignment for current CPU and non-RES SCU groups. The output from the command is bulk DMO files. The files contain the changes to assigned group numbers. The correct execution of the command allows messages to inform the end user of progress. If the command is not correct, message informs the end user of the problem and required end user action.



DANGER

Suspend service order processing

SERVORD processing that involves CPU and SCU must stop with this command. The SERVORD processing must remain inactive until you generate the DMO file. If changes are made, recreate the DMO to make sure of consistency.

The MAP display of the GRPSETUP command structure appears in the following figure.

Group Number Feature Control (continued)

Example MAP display of the GRPSETUP command structure

```
>GRPSETUP
Next par is: <devicename1> DEVICE name
Enter:<devicename1> <filename1> <devicename2> <filename2>
```

where

devicename 1

is the device in use to store the bulk DMO file for table IBNFEAT (IBN Line Feature)

filename1

is the file name of the bulk DMO used for table IBNFEAT

devicename2

is the device in use to store the bulk DMO file for table KSETFEAT

filename2

is the file name for the bulk DMO file in table KSETFEAT



DANGER

End users must check device name and file name

If you use a disk device to store the files that this command creates, the following condition can occur. The device name can be the same for the files in tables IBNFEAT and KSETFEAT (Business Set and Data Unit Feature). The files this command produces are very large and can exceed disk capacity.

When an error occurs, the utility stops after the failure message appears. The end user receives the appropriate action to take.

An example of a MAP display of the GRPSETUP command appears in the following figure.

Group Number Feature Control (continued)

Example MAP display of the GRPSETUP command

```
>GRPSETUP SFDEV IMP SFDEV TMPL
Command as entered:
GRPSETUP SFDEV IMP SFDEV TMPL
PLEASE CONFIRM: ("YES" OR "NO"):
>Y
GRPSETUP: NOW GENERATING DMO . . .
FINISHED IBN LINES.
CONTINUING WITH KEY SETS.
GRPSETUP: COMMAND SUCCESSFUL - FILES CLOSED
>
```

GRPNUMON

A nonmenu command, GRPNUMON activates the group number feature control, and indicates when the feature is active.



DANGER

Follow correct activation sequence

A warning message indicates that you must follow the correct activation sequence for Group Number Feature Control.

An example of the MAP help display of the GRPNUMON command appears in the following figure.

Example MAP help display of the GRPNUMON command

```
>HELP GRPNUMON
GRPNUMON - ACTIVATES THE GROUP NUMBER FEATURE CONTROL
FEATURE. REFER TO DOCUMENTATION FOR PROPER ACTIVATION
SEQUENCE.

WARNING ! ! !   WARNING ! ! !   WARNING ! ! !
THIS COMMAND CAN CAUSE DATA CORRUPTION IF
PROPER ACTIVATION SEQUENCE IS NOT FOLLOWED ! ! !
>
```

How to use the GRPNUMON command for feature activation appears in the following figure.

Group Number Feature Control (continued)

Example MAP display of the GRPNUMON command for feature activation

```
>GRPNUMON
THIS COMMAND ACTIVATES GROUP NUMBER FEATURE CONTROL.
REFER TO DOCUMENTATION FOR PROPER ACTIVATION SEQUENCE.
  WARNING ! WARNING ! WARNING !
FAILURE TO FOLLOW ACTIVATION SEQUENCE CAN RESULT IN DATA
CORRUPTION.
PLEASE CONFIRM ("YES" OR "NO"):
> YES
GRP_NUM_FEAT_CTRL IS NOW ON
  GROUP INITIALIZATION IS NOW COMPLETE
>
```

QCPUGNO

Generation of a list of all assigned CPU groups occurs through this nonmenu command. The group number and LINKLEN for each group appear. If groups are not currently assigned, only the header information appears.

Output from the QCPUGNO command for the CPU GRP_NUMBERS in use and the LINKLEN associated with the output appears in the following figure.

Example MAP display of the QCPUGNO command

```
>QCPUGNO
THE FOLLOWING IS AN OUTPUT OF THE CPU GRP_NUMBERS IN USE,
AND THE LINKLEN ASSOCIATED WITH IT
```

GRP_NUM	LEN	IBN OR KSET	KEY
5	HOST 00 0 05 16	IBN	

QSCUGNO

A list of all assigned non-RES SCU group appears with this nonmenu command. The group number and controller LEN for each group also appear. If groups are not currently assigned, only the header information appears.

Output from the QSCUGNO command for the SCU GRP_NUMBERS in use and the LEN associated with the output appear in the following figure.

Group Number Feature Control (continued)

Example MAP display of the QSCUGNO command

```
>QSCUGNO
THE FOLLOWING IS AN OUTPUT OF THE SCU GRP_NUMBERS IN USE,
AND THE LEN ASSOCIATED WITH IT

GRP_NUM      LEN
-----
23           HOST 00 0 05 17
```

Billing

Group Number Feature Control does not affect billing.

Station Message Detail Recording

Group Number Feature Control does not affect Station Message Detail Recording.

Datafilling office parameters

Office parameters that Group Number Feature Control uses appear in the following table. Refer to *Office Parameters Reference Manual* for more information about office parameters.

Office parameters by Group Number Feature Control

Table name	Parameter name	Explanation and action
OFCOPT	GRP_NUM_FEAT_CTRL	Improves the user interface regarding how you create, modify and query CPU groups, SCU groups and hunt groups. Provides the capability to assign a different group number for each of the preceding types of groups when the group first establishes. Enter Y or N. The default is N. Note: Never change GRP_NUM_FEAT_CTRL after the activation of Group Number Feature Control is complete. Contact TAS for additional information.

Group Number Feature Control (continued)

Datafill sequence

The tables that require datafill to implement Group Number Feature Control appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Group Number Feature Control

Table	Purpose of table
OFCOPT	Office Option. This table contains data on office parameters for the office. Refer to "Datafilling office parameters" for how Group Number Feature Control affects office parameters.
IBNFEAT (Note)	IBN Line Features. This table defines the functionalities assigned to each MDC or RES lines.
KSETFEAT (Note)	Business Set and Data Unit Feature. This table specifies the line features assigned to business sets and data units.
Note: Enter this table through SERVORD. The datafill procedure is not available.	

Tools for verifying translations

Group Number Feature Control does not use tools for verifying translations.

SERVORD

Complete the datafill for the required tables IBNFEAT and KSETFEAT with the service order utility, SERVORD.

To implement this feature, change SERVORD by the deletion of the LINKLEN, LINK_DN, CONTLEN, and HOST_HUNT_TYPE prompts. Replace the prompts with five new prompts. The newly created prompt allows the insertion of a new member into the hunting order.

SERVORD limits

Group Number Feature Control does not have SERVORD limits.

Group Number Feature Control (continued)

SERVORD prompts

The SERVORD prompts in use to assign Group Number Feature Control to a CPU group and DLH group appear in the following table.

SERVORD prompts for Group Number Feature Control

Prompt	Correct input	Explanation
CPUGNUMBER	1-32,767	Provides a different group number in use to establish or modify call pickup group member information.
SCLGNUMBER	1-30,000 or 1-32,767 (DMS SuperNode only)	A different group number in use to establish or modify speed call long group member information.
SCUGNUMBER	1-30,000 or 1-32,767 (DMS SuperNode only)	A different group number in use to establish or modify speed calling group member information.
HNTGNUMBER	1-8191	A different group number in use to establish or modify hunt group member information.
HOSTGNUMBER	1-8191	A different group number in use to establish BNN group member information.
INSERTINGRP	Y, N	Indicates the insertion of a new member into the hunting sequence of current group.
Note: The system enters data in table KSETFEAT or table IBNFEAT with the use of SERVORD to assign Group Number Feature Control.		

SERVORD examples for implementing Group Number Feature Control

The following SERVORD examples are available:

- creation of a CPU group, DLH group, and BNN hunt group that links to DNH group 26
- addition of members to a CPU group and a DLH group
- addition of new lines to a CPU group using option CPU. Addition of a new non-SS line as the controller LEN of an SCU group using option SCL. The addition of a new non-SS line as a member of the SCU group occur using option SCU

Group Number Feature Control (continued)

- addition of a line member of a CPU group using option CPU. Addition of a non-SS line as the controller LEN of an SCU using option SCL. Addition of a non-SS line as a member of an SCU group occurs using option SCU. Addition of a member of a DNH group using option DNH
- changing a line from one CPU group to a different CPU group that is present. How to change a non-SS line from one SCU group to a different existing SCU group

How Group Number Feature Control establishes a CPU group using the EST command appears in the following SERVORD example.

SERVORD example for establishing a CPU group in prompt mode

```
SO:
> EST
SONUMBER: NOW 88 2 1PM
>
GROUPTYPE:
> CPU
CPULEN:
> 0 0 0 7
CPULEN:
> 0 0 0 8
CPULEN:
> $
```

SERVORD example for establishing a CPU group in no-prompt mode

```
> EST $ CPU 0 0 0 7 0 0 0 8 $
```

How Group Number Feature Control establishes a DLH group using the EST command appears in the following SERVORD example.

Group Number Feature Control (continued)

SERVORD example for establishing a DLH group using the EST command in prompt mode

```
S0:  
> EST  
SONUMBER: NOW 88 2 1PM  
>  
GROUPTYPE:  
> DLH  
PILOT_DN:  
> 7875127  
LCC:  
> 1FR  
LATANAME:  
> NILLATA  
LTG:  
> 0  
PILOT_LEN:  
> HOST 00 0 00 07  
MEM_LEN:  
> HOST 00 0 00 08  
MEM_LEN:  
> $  
OPTION:  
> $  
GROUPSIZE:  
> 2
```

SERVORD example for establishing a DLH group using the EST command in no-prompt mode

```
> EST $ DLH 7875127 1FR NILLATA 0 HOST 00 0 00 07 HOST 00 0 00 08  
$ $ 2
```

How Group Number Feature Control establishes a hunt group using the EST command appears in the following SERVORD example.

Group Number Feature Control (continued)

SERVORD example for establishing a BNN hunt group using SERVORD in prompt mode

```
S0:  
> EST  
SONUMBER: NOW 88 2 1PM  
>  
GROUPTYPE:  
> BNN  
PILOT_DN:  
> 8461234  
HOST_HUNT_TYPE:  
> BNN  
OPTION:  
> $  
GROUPSIZE:  
> 2
```

SERVORD example for establishing a BNN hunt group using SERVORD in no-prompt mode

```
> EST $ BNN 8461234 BNN $ 2
```

How Group Number Feature Control adds members to a CPU group using the ADD command appears in the following SERVORD example.

SERVORD example for adding members to a CPU group using SERVORD in prompt mode

```
S0:  
> ADD  
SONUMBER: NOW 88 2 1PM  
>  
GROUPTYPE:  
> CPU  
LINKLEN:  
> HOST 02 0 01 00  
CPULEN:  
> 0 0 0 7  
CPU_LEN:  
> $
```

Group Number Feature Control (continued)

SERVORD example for adding members to a CPU group using SERVORD in no-prompt mode

```
> ADD $ CPU HOST 02 0 01 00 0 0 0 7 $
```

How Group Number Feature Control adds members to a DLH group using the ADD command appears in the following SERVORD example.

SERVORD example for adding members to a DLH group using the ADD command in prompt mode

```
S0:
> ADD
SONUMBER: NOW 88 2 1PM
>
GROUPTYPE:
> DLH
LINKLEN:
> 0 0 10 2
MEM_LEN:
> 0 0 10 2
MEM_LEN:
> $
OPTION:
> $
GROUPSIZE:
> 2
```

SERVORD example for adding members to a DLH group using the ADD command in no-prompt mode

```
> ADD $ DLH 0 0 10 2 0 0 10 2 $ $ 2
```

How Group Number Feature Control adds a line as a member of a CPU group using the NEW command appears in the following SERVORD example.

Group Number Feature Control (continued)

SERVORD example for adding a line as a member of a CPU group using the NEW command in prompt mode

```
SO:
> NEW
SONUMBER: NOW 88 2 1PM
>
DN:
> 7221234
LCC:
> 1FR
LATANAME:
> NILLATA
LTG
> 0
LEN_OR_LTID:
> HOST 02 0 00 01
OPTION:
> CPU
CPULEN
> 0 0 10 2
OPTION:
> $
```

SERVORD example for adding a line as a member of a CPU group using the NEW command in no-prompt mode

```
> NEW $ 7221234 1FR NILLATA 0 HOST 02 0 00 01 CPU 0 0 10 2 $
```

How Group Number Feature Control adds a non-SS line as the controller LEN of an SCU group using the option SCL command appears in the following SERVORD example.

Group Number Feature Control (continued)

SERVORD example for adding a non-SS line as the controller LEN of an SCU group using the option SCL in prompt mode

```
S0:  
> NEW  
SONUMBER: NOW 88 2 1PM  
>  
DN:  
> 7221234  
LCC:  
> 1FR  
LATANAME:  
> NILLATA  
LTG:  
> 0  
LEN_OR_LTID:  
> HOST 02 0 00 01  
OPTION:  
> SCL  
LISTTYPE:  
> L50  
OPTION:  
> $
```

SERVORD example for a non-SS line as the controller LEN of an SCU group using the option SCL in no-prompt mode

```
> NEW $ 7221234 1FR NILLATA 0 HOST 02 0 00 01 SCL L50 $
```

How Group Number Feature Control adds a non-SS line as a member of an SCU group using the SERVORD command option SCU appears in the following SERVORD example.

Group Number Feature Control (continued)

SERVORD example for adding an SCU group using the option SCU in prompt mode

```
SO:
> NEW
SONUMBER: NOW 88 2 1PM
>
DN:
> 7221234
LCC:
> 1FR
LATANAME:
> NILLATA
LTG:
> 0
LEN_OR_LTID:
> HOST 02 0 00 01
OPTION:
> SCU
CONTLEN:
> 0 0 10 2
SCU_TDN:
> N
OPTION:
> $
```

SERVORD example for adding an SCU group using the option SCU in no-prompt mode

```
> NEW $ 7221234 1FR NILLATA 0 HOST 02 0 00 01 SCU 0 0 10 2 N $
```

How Group Number Feature Control adds a line as a member of a CPU group using the ADO command appears in the following SERVORD example.

Group Number Feature Control (continued)

SERVORD example for adding a CPU group member using SERVORD and option CPU in prompt mode

```
S0:  
> ADO  
SONUMBER: NOW 88 2 1PM  
>$  
DN_OR_LEN:  
> 7221234  
OPTION:  
> CPU  
CPULEN:  
> 00102  
OPTION:  
> $
```

SERVORD example for adding a CPU group member using SERVORD and option CPU in no-prompt mode

```
> ADO $ 7221234 CPU 0 0 10 2 $
```

How Group Number Feature Control adds a non-SS line as the controller LEN of an SCU group using option SCL appears in the following SERVORD example.

SERVORD example for adding a controller LEN of an SCU using SERVORD and option SCL in prompt mode

```
S0:  
> ADO  
SONUMBER: NOW 88 2 1PM$  
> $  
DN_OR_LEN:  
> 7221234  
OPTION:  
> SCL  
LISTTYPE:  
> L50  
OPTION:  
> $
```

Group Number Feature Control (continued)

SERVORD example for adding a controller LEN of an SCU using SERVORD and option SCL in no-prompt mode

```
> ADO $ 7221234 SCL L50 $
```

How Group Number Feature Control adds a non-SS line as a member of an SCU group using the SERVORD command using option SCU appears in the following SERVORD example.

SERVORD example for Group Number Feature Control in prompt mode

```
S0:  
>ADO  
SONUMBER: NOW 88 2 1PM  
> $  
DN_OR_LEN:  
> 7221235  
OPTION:  
> DNH  
LINKDN:  
> 7221233  
GROUPSIZE:  
> 2  
OPTION:  
> $
```

SERVORD example for Group Number Feature Control in no-prompt mode

```
> ADO $ 7221235 DNH 7221233 2 $
```

How Group Number Feature Control changes a line from one CPU group to a different CPU group using the SERVORD command appears in the following SERVORD example.

Group Number Feature Control (end)

SERVORD example for changing CPU groups in prompt mode

```
S0:  
> CHF  
SONUMBER: NOW 76 1 2PM  
>  
DN_OR_LEN:  
> 6216100  
OPTION:  
> CPU  
CPULEN:  
> 00102  
OPTION:  
> $
```

SERVORD example for changing CPU groups in no-prompt mode

```
> CHF $ 6216100 CPU 0 0 10 2 $
```

How Group Number Feature Control changes an SCU from one group to a different SCU group using the SERVORD command appears in the following SERVORD example.

SERVORD example for Group Number Feature Control in prompt mode

```
S0:  
> CHF  
SONUMBER: NOW 76 1 2PM  
>  
DN_OR_LEN:  
> 6216100  
OPTION:  
> SCU  
CONTLEN:  
> 0 010 2  
SCU_TDN:  
> N  
OPTION:
```

SERVORD example for Group Number Feature Control in no-prompt mode

```
> CHF $ 6216100 SCU 0 0 10 2 N $
```

Hunt LOD Expansion

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: MDC00067

Release applicability

NA013 and up

NA013 introduced Hunt LOD Expansion.

Requirements

To operate, the Hunt LOD Expansion feature requires the MDC00003 functional group and the MDC00067 functionality ordering code.

Description

The Hunt LOD Expansion feature expands the number of digits in the overflow directory numbers (DNs) for the line overflow directory number (LOD) option and the keyset short hunt (KSH) option. The Hunt LOD Expansion feature includes all the elements to expand the overflow directory numbers for the LOD and KSH options from 11 to 30 digits. Expansion to 30 digits allows operating company personnel to program overflow DN's to any number in the DMS-100 switch, which includes international numbers.

The changes to the functional areas that follow apply for the Hunt LOD Expansion feature:

- Service Order System (SERVORD) to provision and query the LOD option overflow DN's
- SERVORD to provision and query the KSH option overflow DN's
- data management of the HUNTGRP (hunt group) table and the KSETFEAT (business set and data unit feature) table

Provision and query of LOD DN's

The Hunt LOD Expansion feature expands the overflow DN's for the LOD option to 30 digits for the SERVORD and query commands. The Hunt LOD Expansion feature affects the EST, ADO, and CHF SERVORD commands and the query commands QLEN and QDN. The list that follows explains the operation of the SERVORD and query commands.

- The EST command creates a new hunt group. The DNH (directory number hunt), MLH (multiline hunt), and DLH (distributed line hunt) hunt group types support the LOD option. The EST command in SERVORD prompts the operating company personnel for options. If the operating company

Hunt LOD Expansion (continued)

personnel enters the LOD option, the next prompt is the LODDN prompt. The LODDN prompt can accept a maximum of 30 digits.

- The ADO command allows a SERVORD user to add the LOD option to a hunt group. The LOD option is valid for the DNH, MLH, or DLH hunt group types. The operating company personnel enters the LOD option in the OPTIONS prompt. The next prompt is LODDN prompt. The LODDN prompt can accept a maximum of 30 digits
- The CHF command allows a SERVORD user to change the LODDN that exists on a hunt group. The operating company personnel enters the LOD option in the OPTIONS prompt. The next prompt is the LODDN prompt. The LODDN prompt can accept a maximum of 30 digits.
- The QLEN (query line equipment number) and QDN (query directory number) commands can query members of a hunt group. A display for GROUP OPTIONS displays in the output. The LODDN displays in the GROUP OPTIONS area if the hunt group has the assignment of the LOD option. The display for the LODDN can show a maximum of 30 digits when the operating company personnel use the query commands.
- The ADD command allows a SERVORD user to add members to established hunt groups. The addition of the LOD option through the ADD command is not supported

The example that follows shows the QDN command for the hunt group members with the LOD option and 30 digits in the line overflow directory number.

Hunt LOD Expansion (continued)

QDN example with 30 digit LODDNs

> QDN 9508000

DN: 9508000
TYPE: PILOT OF DNH HUNT GROUP
SNPA: 909 SIG: DP LNATTIDX: 42
HUNT GROUP: 15 HUNT MEMBER: 0
LINE CLASS CODE: 1FR
LINE TREATMENT GROUP: 0
CARD CODE: 6X17AA GND: N PADGRP: STD LN BNV: NL MNO: N
PM NODE NUMBER: 40
PM TERMINAL NUMBER: 131
OPTIONS: NONE
GROUP OPTIONS:
LOD: 123456789012345678901234567890 \$ RCVD
MEMBER INFO:
1 9099508001

The example that follows shows the QLEN command for the hunt group members with the LOD option and 30 digits for the overflow directory number.

Hunt LOD Expansion (continued)

QLEN example with 30 digit LODDNs**> QLEN 0 0 4 2**

```

-----
LEN: HOST 00 0 04 02
TYPE: PILOT OF DNH HUNT GROUP
SNPA: 909
HUNT GROUP: 15 HUNT MEMBER: 0
DIRECTORY NUMBER: 9508000
LINE CLASS CODE: 1FR
SIGNALLING TYPE: DIAL PULSE
LINE TREATMENT GROUP: 0
LINE ATTRIBUTE INDEX: 42
CARD CODE: 6X17AA GND: N PADGRP: STD LN BNV: NL MNG: N
PM NODE NUMBER: 40
PM TERMINAL NUMBER: 131
OPTIONS: NONE
GROUP OPTIONS:
LOD 123456789012345678901234567890 $
MEMBER INFO:
  1 9099508001

```

Provision and query of the KSH option overflow DN

The Hunt LOD Expansion feature expands the overflow DN for the KSH option to 30 digits for the SERVORD and query commands. The Hunt LOD Expansion feature affects the NEW, ADO, and CHF SERVORD commands and the query commands QLEN and QDN. The list that follows explains the operation of the SERVORD and query commands.

- The NEW command allows SERVORD to create a new business set. The assignment of the KSH option is made on key one when the operating company personnel enters the KSH option in the OPTION prompt. The business set must have the assignment of more than one DN key. The next prompt is the OVTYPE prompt. The operating company personnel enters "D" for the overflow to DN option in the OVTYPE prompt. The OVDN prompt displays so the operating company personnel can enter the overflow directory number. The OVDN prompt can accept a maximum of 30 digits.
- The ADO command allows SERVORD to add the KSH option to a business set. The business set must have the assignment of two DN keys before the KSH option is valid. The operating company personnel enters the KSH option in the OPTION prompt. SERVORD responds with the

Hunt LOD Expansion (continued)

OVTYP prompt. The operating company personnel enters “D” for the overflow to DN option at the OVTYP prompt. The next prompt is the OVDN prompt for the overflow DN. The OVDN prompt displays so the operating company personnel can enter the overflow directory number. The OVDN prompt can accept a maximum of 30 digits.

- The CHF command allows SERVORD to change the overflow DN for the KSH option. The operating company personnel enters the KSH option in the OPTION prompt. SERVORD responds with the OVTYP prompt. The operating company personnel enters “D” for the OVTYP prompt. The OVDN prompt displays so the operating company personnel can enter the overflow directory number. The OVDN prompt can accept a maximum of 30 digits.
- The operating company personnel use the QLEN and QDN commands to query business sets. The KSH option displays in the OPTIONS area of the QLEN or QDN output if the assignment of the option is on the business set. The display for the overflow directory number also displays in the OPTIONS area when the overflow type is to a directory number. The display for the overflow directory number shows a maximum of 30 digits.

The example that follows shows the QDN command for a business set with the KSH option and a 30 digit overflow directory number.

QDN example with 30 digit KSH overflow DN

> QDN 6215520

DN: 6215520
TYPE: SINGLE PARTY LINE
SNPA: 909 SIG: N/A LNATTIDX: N/A
LINE EQUIPMENT NUMBER: HOST 00 0 00 04
LINE CLASS CODE: M5212 SET
KEY: 1
CUSTGRP: BNTST SUBGRP: 0 NCOS: 0 RING: Y
CARDCODE: 6X21AC GND: N PADGRP: STDLN BNV: NL MNO: N
PM NODE NUMBER: 40
PM TERMINAL NUMBER: 5
OPTIONS:
KSH D:123456789012345678901234567890 \$
OFFICE OPTIONS:
AIN LNPOFFICE

Hunt LOD Expansion (continued)

The example that follows shows the QLEN command for a business set with the KSH option and a 30 digit directory number.

QLEN example with 30 digit KSH overflow DNs

> QLEN 0 0 04

```
-----
LEN: HOST 00 0 00 04
TYPE: SINGLE PARTY LINE
SNPA: 909
DIRECTORY NUMBER: 6215520
LINE CLASS CODE: M5212 SET
CUSTGRP: IBNTST SUBGRP: 0 NCOS: 0 RING: Y
CARDCODE: 6X21AC GND: N PADGRP: STDLN BNV: NL MNO: N
PM MODE NUMBER: 40
PM TERMINAL NUMBER 5
OPTIONS:
KSH D 123456789012345678901234567890 $
OFFICE OPTIONS:
AIN LNPOFFICE
```

KEY	DN
1	DN 9096215520
2	DN 9096215521

KEY	FEATURE
1	KSH D 123456789012345678901234567890\$

Operation

The Hunt LOD Expansion feature does not affect the operation of the KSH or the LOD options. The ADO, ADD, CHF, and EST SERVORD commands allow a maximum of 30 digits in the LODDN prompt for the LOD option. The NEW, ADO, and CHF SERVORD commands allow a maximum of 30 digits in the OVDN prompt for the KSH option. The QLEN and QDN commands display a maximum of 30 digits for the overflow DNs for the LOD or the KSH options.

Hunt LOD Expansion (continued)

Translations table flow

The list that follows includes the Hunt LOD Expansion feature translations tables:

- KSETFEAT
- HUNTGRP

Note: The KSETFEAT and the HUNTGRP tables use SERVORD to datafill the tables. Refer to the “SERVORD” section for the examples.

The Hunt LOD Expansion feature does not require a translations flow chart or datafill example.

Limitations and restrictions

The limitations and restrictions that follow apply to the Hunt LOD Expansion feature.

- The feature expands the size of the overflow DNs for the LOD option and the KSH option to allow a maximum of 30 digits.
- The function of the LOD option and the KSH option does not change and no new limitations and restrictions apply. The operating company personnel must use SERVORD to make changes to the KSH or LOD options. Table editor allows operating company personnel to view the options in the KSETFEAT or HUNTGRP tables.

Interactions

The Hunt LOD Expansion feature does not interact with other functionalities.

Activation and deactivation by the user

The Hunt LOD Expansion feature does not require activation or deactivation by the user.

Billing

The Hunt LOD Expansion feature does not generate billing records or changes.

Office parameters used by Hunt LOD Expansion

The Hunt LOD Expansion feature does not generate office parameters.

Station Message Detail Recording

The Hunt LOD Expansion feature does not require Station Message Detail Recording.

Hunt LOD Expansion (continued)

Datafill sequence

The table that follows lists the tables that require datafill to put the Hunt LOD Expansion feature into operation. You must enter data into the tables in this order.

Note: The HUNTGRP and the KSETFEAT tables use SERVORD to datafill the tables. There is no requirement for the datafill procedure or the example.

Datafill requirements for Hunt LOD Expansion

Table	Purpose of table
HUNTGRP	The hunt group table contains the data for each hunt group in the DMS-100 switch.
KSETFEAT	The business set and data unit features table contains the line features for the business set and the data units.

SERVORD

The Hunt LOD Expansion feature uses the Service Order System (SERVORD) to assign the KSH and the LOD options.

SERVORD limitations and restrictions

The Hunt LOD Expansion feature has no SERVORD limitations or restrictions.

SERVORD prompts

The table that follows provides the SERVORD prompts used to assign the LOD option for the Hunt LOD Expansion feature to a hunt group.

SERVORD prompts for Hunt LOD Expansion feature LOD option

Prompt	Correct input	Explanation
OPTION	LOD	Option. Enter the option line overflow directory number (LOD).
LODDN	1–30 digits	Line overflow directory number. Enter a directory number up to a maximum of 30 digits.

Hunt LOD Expansion (continued)

The table that follows provides the SERVORD prompts used to assign the KSH option for the Hunt LOD Expansion feature to a business set.

SERVORD prompts for Hunt LOD Expansion feature KSH option

Prompt	Correct input	Explanation
OPTION	KSH	Key set short hunt. Enter the KSH option.
OVTYP	D	Overflow type. Enter the overflow type of D for directory number.
OVDN	1–30 digits	Over flow directory number. Enter a directory number up to a maximum of 30 digits.

SERVORD example for LOD option for the Hunt LOD Expansion feature

The SERVORD example that follows shows how to establish the DNH hunt group with the LOD option. The Hunt LOD Expansion feature allows the LODDN prompt to include a maximum of 30 digits. The SERVORD example shows the EST (establish) command in the prompt mode.

Hunt LOD Expansion (continued)

SERVORD example for LOD option for Hunt LOD Expansion in prompt mode

```
> EST
SONUMBER: NOW 99 11 12 PM
>
GROUPTYPE:
> DNH
PILOT_DN:
> 9508000
LCC:
> 1FR
LATANAME:
> LATA1
LTG:
> 0
PILOT_LEN:
> 0 0 4 2
DN_LEN:
> 9508001
LEN:
> 0 0 4 3
DN_LEN:
> $
OPTION:
> LOD
LODDN:
> 123456789012345678901234567890
OPTION:
> $
GROUPSIZE:
> 2
COMMAND AS ENTERED:
EST NOW 99 11 12PM DNH 9508000 1FR LATA1 0 HOST 00 0 04 02
(9508001 HOST 00 0 04 03) $ (LOD 123456789012345678901234567890) $
2
ENTER Y TO CONFIRM, N TO REJECT, OR E TO EDIT
> Y
MACHINES ARE OUT OF SYNC, SERVICE ORDERS NOT ALLOWED JOUR-
NAL FILE IS INACTIVE, SERVICE ORDERS NOT ALLOWED
SHOULD ORDER BE DONE ANYWAY? (Y OR N)
> Y
```

Hunt LOD Expansion (continued)

The SERVORD example that follows shows how to establish the DNH hunt group with the LOD option. The Hunt LOD Expansion feature allows the LODDN prompt to include a maximum of 30 digits. The SERVORD example shows the EST command in the no-prompt mode.

SERVORD example for LOD option for Hunt LOD Expansion in no-prompt mode

```
>EST $ DNH 9508000 1FR LATA1 0 0 4 2 9508001 0 0 4 3 $ LOD  
123456789012345678901234567890$ 2
```

SERVORD example for KSH option for the Hunt LOD Expansion feature

The SERVORD example that follows shows how to add the KSH option with an overflow directory number to a business set. The Hunt LOD Expansion feature allows the OVDN prompt to include a maximum of 30 digits. The SERVORD example shows the ADO (add option) command in the prompt mode.

Hunt LOD Expansion (end)**SERVORD example for KSH option for Hunt LOD Expansion in prompt mode**

```

>ADO
SONUMBER: NOW 99 11 12 PM
>
DN_OR_LEN:
> 6215520
OPTKEY:
> 1
OPTION:
> KSH
OVRTYPE:
> D
OVDN:
> 123456789012345678901234567890
KEYLIST:
> $
OPTKEY:
> $
COMMAND AS ENTERED:
ADO NOW 99 11 12 PM 6215520 (1 KSH D
123456789012345678901234567890 $) $
ENTER Y TO CONFIRM, N TO REJECT, OR E TO EDIT
> Y
MACHINES ARE OUT OF SYNC, SERVICE ORDERS NOT ALLOWED
JOURNAL FILE IS INACTIVE, SERVICE ORDERS NOT ALLOWED
SHOULD ORDER BE DONE ANYWAY? (Y OR N)
> Y

```

The SERVORD example that follows shows how to add the KSH option with an overflow directory number to a business set. The Hunt LOD Expansion feature allows the OVDN prompt to include a maximum of 30 digits. The SERVORD example shows the ADO command in the no-prompt mode.

SERVORD example for KSH option for Hunt LOD Expansion in no-prompt mode

```

ADO $ 6215520 1 KSH D 123456789012345678901234567890 $ $

```

IBN Auth Codes for Alternate Route Selection (ARS)

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS24 and later versions

Requirements

To operate, IBN Auth Codes for Alternate Route Selection (ARS) has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The IBN Auth Codes for Alternate Route Selection (ARS) allows an MDC originator to use an authorization code. The originator uses this code to avoid a call block during ARS. This condition occurs when that block occurs because not enough trunking facilities are available.

Earlier, the following authorization code (auth code) modes of operation features returned a reorder tone when an all trunks busy (ATB) condition occurred:

- auth code unconditional first
- auth code conditional last

Operation

The IBN Auth Codes for Alternate Route Selection (ARS), prompts the user for an auth code. The user does not receive reorder. If the network class of service (NCOS) associated with the auth code entry is correct for the route list, the system routes the call.

The user dials a calling number. The DMS-100 switch attempts to route the call according to the NCOS associated with the originating station. Not enough trunk facilities can cause a blocked call. An ARS route list can be present. When these condition occurs, the DMS-100 switch determines if the customer group has the auth code option. The DMS-100 switch determines if the NCOS associated with the originating station allows IBN Auth Codes for Alternate Route Selection (ARS).

IBN Auth Codes for Alternate Route Selection (ARS) (continued)

If assignment of the auth code option or auth code for ARS does not occur, reorder. If assignment of the auth code occurs, the system provides announcement and recall dial tone. The announcement and tone prompt the user to enter an auth code. The system must check the auth code. The NCOS that associates with the code must be correct for the route list for the system to route the call.

The calling user receives an IBN Auth Codes for Alternate Route Selection (ARS) prompt if the following conditions occur:

1. The call block from not enough trunk facilities occurs in the originating DMS-100 switch. The call block can occur on a virtual facility group (VFG) trunk.
2. An ARS route list is present.
3. The customer group has the auth code option ARS assigned. The NCOS that associates with the originating station allows IBN Auth Codes for Alternate Route Selection (ARS).

The IBN Auth Codes for Alternate Route Selection (ARS) provides the following prompts:

- announcement followed by special dial tone—The system provides one or more cycles of announcement. This action allows the announcement to occur in more than one language.
- special dial tone only—Special dial tone includes two parts: The first part is three 100 ms bursts of dial tone. Three 100 ms intervals separate this dial tone. A tone is not in the three 100 ms intervals. The second part is continuous dial tone. The dial tone is 350 Hz and 440 Hz of continuous tone.

The prompt depends on the datafill of the customer group and NCOS of the originating stations.

Digit collection starts when the announcement begins. The user can enter the auth code after the announcement. When the system receives the first digit, the system removes the announcement or the tone.

Long first digit time-out allows the user to hear the announcement. The time-out length is equal to the announcement duration and the permanent signal time-out. The total must be less than 40 s.

The caller can enter an auth code that is not complete or enters an incorrect auth code. When this condition occurs, the system routes the call to treatment.

IBN Auth Codes for Alternate Route Selection (ARS) (continued)

The datafill at the customer group level determines the treatment to which the system routes the call.

The system outputs a log message to a designated printer. The log message is the same as the log messages in Authorization Codes (BV0494), under Auth Code Feature Abuse.

Translations table flow

The IBN Auth Codes for Alternate Route Selection (ARS) does not affect translations table flow.

Limits

The following limits apply to IBN Auth Codes for Alternate Route Selection (ARS):

- When the optional announcement prompts for the auth code, a dual tone multifrequency (DTMF) sender is a requirement. The DTMF sender generates the special dial tone at the end of the announcement. For the incoming trunk or the DTMF line, the digit receiver must attach to the trunk/line before the announcement begins. This condition can cause a long receiver holding time. This receiver holding time exceeds the normal receiver holding time length.
- If a digit receiver is not available when this feature is a requirement, the auth code for ARS feature returns reorder tone. If a DTMF sender is not available at the time the system requires, this feature does not send special dial tone. This feature continues digit collection until time-out.
- When a warm or cold restart occurs to the DMS-100 system, the user must initiate the call setup again.
- The long first digit time-out is in use at the start of digit collection. The long first digit time-out causes a long holding time to occur for the DTMF receiver. This holding time exceeds the normal holding time length. For additional digits, partial dial time-out applies. The end of interdigit time-out or an octothorpe (#) indicates the end of pulsing.
- The customer group must have the auth code for ARS and the SMDR features.

Interactions

The interactions between IBN Auth Codes for Alternate Route Selection (ARS) and other functionalities appear in the following paragraphs.

For billing purposes, additional charge treatment is not a requirement for this feature. The system records the auth code for ARS in the auth code field of the

IBN Auth Codes for Alternate Route Selection (ARS) (continued)

SMDR record. The system records the auth code when auth code for ARS is active.

If the customer group has the auth/account code, the user must enter the account part. The user must enter the account part when this feature prompts for an auth code.

The system can prompt attendant-originated calls for auth code for ARS. The NCOS of the attendant normally routes the call. If a call blockage occurs, the system prompts the attendant for an auth code for ARS. Attendant-extended calls have access to the auth code for ARS feature.

When the system validates the auth code, the NCOS associated with the code activates. Features like Expensive Route Warning Tone (ERWT), Call Back Queuing (CBQ), and Off-Hook Queuing (OHQ) can be interfaced.

A customer group can have the auth code last and the auth code for ARS assigned to it. The system prompts auth code when a call block occurs. For a specified call, the prompt triggers for either mode of operation and not for both modes of operation. The station/attendant NCOS specifies which prompt the caller receives.

A customer group, through the NCOS associated with a line, can select one of the following options:

- the auth code last and the auth code for ARS features
- only the auth code last feature
- only the auth code for ARS feature
- neither feature

A customer group can select both features and the NCOS of the station allows for both modes of operation. When this condition occurs the system handles the call in the following way:

- If call routing has restrictions, the auth code last feature prompts the user for an authorization code. The digits dialed determine the restrictions. If the user enters a correct auth code at the prompt, the system routes the call.
- If the call destination does not have restrictions, this NCOS routes the call. The NCOS of the station determines the restrictions. If the system encounters a block, the auth code for ARS feature prompts the user for an auth code. The user can enter the correct auth code. If the associated NCOS is correct for the ARS route list, the system routes the call.

IBN Auth Codes for Alternate Route Selection (ARS) (continued)

The Auth Code Unconditional First (ACUF) feature is compatible with the auth code for ARS. The user can use the ACUF feature with a correct auth code. If the user does use the feature with a correct code, the system does not prompt for an auth code twice.

If the user enters an incorrect auth code at the start of a call, the system discards the auth code. The call can proceed with the NCOS of the calling station. In this condition, the system does not detect that the user did not enter an auth code. The auth code for ARS feature cannot become active.

Activation/deactivation by the end user

An announcement and/or dial tone prompts the end user to enter an auth code.

Billing

The IBN Auth Codes for Alternate Route Selection (ARS) does not affect billing.

Station Message Detail Recording

The IBN Auth Codes for Alternate Route Selection (ARS) does not affect Station Message Detail Recording.

Datafilling office parameters

The IBN Auth Codes for Alternate Route Selection (ARS) does not affect office parameters.

Datafill sequence

The tables that require datafill to implement IBN Auth Codes for Alternate Route Selection (ARS) appear in the following table. The tables appear in the correct entry order.

Datafill requirements for IBN Auth Codes for Alternate Route Selection (ARS)

Table	Purpose of table
CUSTHEAD	Custom Group Head. This table defines the public and private transaction capability application part (TCAP) translator names for each customer group.
IBNRTE	IBN Route. This table contains route lists. A route reference index number identifies the route lists.

Datafilling table CUSTHEAD

Datafill for IBN Auth Codes for Alternate Route Selection (ARS) for table CUSTHEAD appears in the following table. The fields that apply to IBN Auth

IBN Auth Codes for Alternate Route Selection (ARS) (continued)

Codes for Alternate Route Selection (ARS) appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CUSTHEAD

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		ACR	Options. This field specifies the authorization or account code last option. Enter ACR.
	AUAC	AUTH, ACCT, ARS, AUARS	Authorization or Account Code Last. This subfield specifies the authorization or account code last. Enter AUTH if entry of authorization or combined authorization and account code must occur last. Enter ACCT if entry of account code must occur last. Enter ARS if the entry of authorization code is for Automatic Route Selection (ARS). Enter AUARS if the authorization code must occur last and is for ARS.

Datafill example for table CUSTHEAD

Sample datafill for table CUSTHEAD appears in the following example.

MAP example for table CUSTHEAD

CUSTNAME	CUSTXLA	DGCOLNM	IDIGCOL	OPTIONS
IBNGRP8B	CXN2	IBN2	NIL	
(VACTRMT 0	(EXTNCOS 0)	(AUTH IBNFRP8B N N)	(ACR AUTH 1)	\$

Datafilling table IBNRTE

Table IBNRTE (IBN Route) contains route lists. A route reference index number identifies these route lists.

Datafill for IBN Auth Codes for Alternate Route Selection (ARS) for table IBNRTE appears in the following table. The fields that apply to IBN Auth

IBN Auth Codes for Alternate Route Selection (ARS) (continued)

Codes for Alternate Route Selection (ARS) appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table IBNRTE

Field	Subfield or refinement	Entry	Explanation and action
RTELIST		see subfields	Route List. This field contains subfields IBNRTSEL, NCOSLIST, TREATMT, ARSROUTE, TABID, and KEY.
	IBNRTSEL	ARS	IBN Route Selector. This subfield specifies automatic route selection. Enter ARS.
	NCOSLIST	vector of a maximum of 8 NCOSs, 0 - 511 or \$	Network Class of Service List. This subfield specifies the NCOS for which the system attempts routing with the specified route list. Enter a vector of a maximum of 8 of 0 to 511 NCOS on one line. Separate each entry with a space. Enter \$ to terminate the vector if you enter less than eight digit NCOS.
	TREATMT	0 - 63	Treatment. This subfield specifies the treatment used when the NCOS associated with the entered authcode for ARS does not appear in NCOSLIST. Table IBNTREAT specifies the treatment. Enter a value from 0 to 63.
	ARSROUTE	see subfields	Automatic Route Selection Route. This subfield contains subfields TABID and KEY.
	TABID	IBNRTE, OFRT	Table Identification. This subfield specifies the table name where the system routes translation. Enter IBNRTE or OFRT.
	KEY	0 - 1023	Key. This subfield specifies the table index for the specified entry in field TABID. Enter a value from 0 to 1023.

Datafill example for table IBNRTE

Sample datafill for table IBNRTE appears in the following example.

MAP example for table IBNRTE

RTE	RTELIST
10 (S N N N N REGIBNOTDMTT) (QH 10) (DN 919 848 Y 21) \$	

IBN Auth Codes for Alternate Route Selection (ARS) (end)

Tools for verifying translations

The IBN Auth Codes for Alternate Route Selection (ARS) does not use tools for verifying translations.

SERVORD

The IBN Auth Codes for Alternate Route Selection (ARS) does not use SERVORD.

IBN Call Forward Enhancements

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS16 and later versions

Requirements

To operate, IBN Call Forward Enhancements has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The IBN Call Forward Enhancements allows for the addition of multiple Call Forwarding and personal call screening options to a customer group. These enhancements are for customer groups only. The system cannot assign these enhancements to separate lines.

The multiple call forward (MULTICFX) option allows an IBN station to forward more than one call at a time. This option can allow multiple Call Forwarding for other Call Forwarding features like the following:

- call forward universal (CFU)
- call forward intragroup (CFI)
- call forward busy (CFB)
- call forward don't answer (CFD)

For example, a station with the CFB line feature can have multiple call forward busy (MULTICFB). This station can have MULTICFB if the customer group of the station has the MULTICFX feature assigned.

A customer group with the MULTICFX feature can assign the following options to a customer group:

- MULTICFA—This option allows a station with the CFU/CFI option to forward more than one call when the CFU/CFI feature activates. For example, the base station can forward calls to a station in a hunt group. When this condition occurs, the system forwards calls that come to the

IBN Call Forward Enhancements (continued)

CFU/CFI station. The system forwards the calls until lines in the hunt group are not available.

- **MULTICFB**—This option allows a station that has the CFB option to forward more than one call at a time when the CFB feature is active.
- **MULTICFD**—This option allows a station to forward more than one call at a time when the CFD feature is active.
- **TRKCFX**—This option allows a station to forward multiple calls to trunks for the MULTICFA, MULTICFB, and MULTICFD options. The MULTICFB and MULTICFD options use intragroup trunks.

The personal call screening option allows the system to transfer forwarded calls back to a base station. The system forwards the calls even if Call Forwarding is active. This option can allow personal call screening for Call Forwarding features like CFU, CFI, CFB, and CFD.

A customer group with personal call screening can assign the following options to a customer group:

- **PCSCFA**—This option allows a station with the CFU/CFI feature to use personal call screening.
- **PCSCFB**—This option allows a station with the CFB feature to use personal call screening.
- **PCSCFD**—This option allows a station with the CFD feature to use personal call screening.

Other options in this package include the following:

- **Customer group transparency for CFI**—With this enhancement, the forwarded station does not have to be in the same customer group as the base station.
- **Ring splash for CFI**- The system can forward an intragroup call and the base station is idle. When this condition occurs, the system applies a 500 ms burst of ringing to the base station with this enhancement. The burst of ringing indicates that call forward is active.
- **Denied call forwarding**—A line with this option does not receive calls from another line that the system forwards over an intragroup route.

Operation

The IBN Call Forward Enhancements does not require operation for the options included.

IBN Call Forward Enhancements (continued)

Translations table flow

The IBN Call Forward Enhancements does not affect translations table flow.

Limits

The following limits apply to IBN Call Forward Enhancements:

- Personal Call Screening cannot start when the assignment of options IECFB or IECFD occurs to a station in the call forwarding chain.
- The MULTICFX feature cannot apply to a station where the system forwarded the call to a trunk. The trunk call forward option allows multiple Call Forwarding to trunks where the Call Forwarding restrictions apply.
- The personal call screening for CFU/CFI option is only for the remote station where the base station forwards calls.
- Personal call screening does not allow specified Call Forwarding conditions with hunt groups. A hunt group member can call a set that the system forwarded back to the same hunt group. The system does not forward this call back to the group. The Call Forwarding base station rings continuously.
- A call can come in to a station that has the MULTICFX or MULTICFB option and the remote station is busy. When this condition occurs, the calling party receives busy tone. A call can arrive to a station that uses the MULTICFD option to forward calls and the remote station is busy. When this condition occurs, the system forwards the call back to the base station.

Interactions

The IBN Call Forward Enhancements does not have functionality interactions.

Activation/deactivation by the end user

The IBN Call Forward Enhancements does not require activation or deactivation by the end user.

Billing

The IBN Call Forward Enhancements does not affect billing.

Station Message Detail Recording

The IBN Call Forward Enhancements does not affect Station Message Detail Recording.

Datafilling office parameters

The IBN Call Forward Enhancements does not affect office parameters.

IBN Call Forward Enhancements (continued)

Datafill sequence

The tables that require datafill to implement IBN Call Forward Enhancements appear in the following table. The tables appear in the correct entry order.

Datafill requirements for IBN Call Forward Enhancements

Table	Purpose of table
CUSTSTN	Customer Group Station Option Table. A switching unit with North American translations and the Integrated Business Network (IBN) or the Residential Enhanced Services (RES) requires this table.

Datafilling table CUSTSTN

Datafill for IBN Call Forward Enhancements for table CUSTSTN appears in the following table. The fields that apply to IBN Call Forward Enhancements 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	Customer Name. This field specifies the 1 to 16 character name assigned to the customer group. Enter the alphanumeric customer name. Obtain the correct entry from table CUSTHEAD.
OPTNAME		CFXOPT	Option Name. This field specifies the name of the option. Enter CFXOPT.
OPTION		see subfields	Option. This field contains subfields OPTION, PCSCFA, PCSCFB, PCSCFD, MULTICFA, MULTICFB, MULTICFD, CFXTRK, and BUSYTRMT.
	OPTION	CFXOPT	Option. This subfield specifies the option name. Enter CFXOPT.
	PCSCFA	Y	Personal Call Screening for CFU/CFI. This subfield specifies if personal call screening occurs for CFU/CFI. Enter Y (yes).
	PCSCFB	Y	Personal Call Screening for CFB. This subfield specifies if personal call screening occurs for CFB. Enter Y.

IBN Call Forward Enhancements (continued)**Datafilling table CUSTSTN (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	PCSCFD	Y	Personal Call Screening for CFD. This subfield specifies if personal call screening occurs for CFD. Enter Y.
	MULTICFA	Y	Multiple Call Forwarding for CFA. This subfield specifies if multiple Call Forwarding occurs for CFA. Enter Y.
	MULTICFB	Y	Multiple Call Forwarding for CFB. This subfield specifies if multiple Call Forwarding occurs for CFB. Enter Y.
	MULTICFD	Y	Multiple Call Forwarding for CFD. This subfield specifies multiple Call Forwarding occurs for CFD. Enter Y.
	CFXTRK	Y	Multiple Call Forwarding to Trunks. This subfield specifies if multiple Call Forwarding occurs to trunks. Enter Y.
	BUSYTRMT	Y	Busy Treatment. This subfield specifies if busy treatment occurs. Enter Y

Table CUSTSTN must contain the following datafill to allow the system to apply a ring splash to a base station. The system applies a ring splash when the system forwards a call to a remote station and the base station is idle.

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

Datafilling table CUSTSTN

Field	Subfield or refinement	Entry	Explanation and action
OPTION		CFXFEAT	Option Name This field specifies the option name. Enter CFXFEAT.
RINGCFI		Y	Ring Splash for Base Station This field specifies if a ring splash is present for base stations. Enter Y.

IBN Call Forward Enhancements (end)

Datafill example for table CUSTSTN

Sample datafill for table CUSTSTN appears in the following example.

MAP example for table CUSTSTN

TABLE: CUSTSTN											
CUSTNAME	OPTNAME		OPTION								
NETWORK	CFXOPT	CFXOPT	Y	Y	Y	Y	Y	Y	Y	Y	Y

Tools for verifying translations

The IBN Call Forward Enhancements does not use tools for verifying translations.

SERVORD

The IBN Call Forward Enhancements does not use SERVORD.

IBN Class 5 INWATS

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS10 and later versions

Requirements

To operate, IBN Class 5 INWATS has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The IBN Class 5 INWATS feature is for users that receive many long-distance calls. Another name for the IBN Class 5 INWATS feature is 800 service. This service allows the user to dial calls that the user normally places through the operator. The INWATS subscriber has contracts for stations in specified zones. If a caller calls the calling party from a station in these zones, the caller is not charged for the call.

The INWATS is a one-way incoming service. The INWATS like outward wide area telephone service (OUTWATS). Zones can purchase this service full-time, measured-time, or half-measured time. Each normal service has a telephone number and an associated line location.

Operation

The calling party dials the 800 INWATS number. The remainder of the operation for this feature is transparent to the two parties.

The INWATS calls can terminate in the following three ways:

- on the ICI of an attendant console
- on IBN lines
- on a single station. This type of termination can occur when the system forms a hunt group that uses that single station forms.

The number of terminations on a specified INWATS directory number (DN) depends on the virtual facility group (VFG) size.

IBN Class 5 INWATS (continued)

Translations table flow

The IBN Class 5 INWATS feature does not affect translations table flow.

Limits

The following limits apply to the IBN Class 5 INWATS feature. When INWATS calls start in the IBN office, the system must suppress local calling area screening. The terminating call must not appear as a billed local call.

Interactions

Descriptions of the interactions between the IBN Class 5 INWATS feature and other functionalities appear in the following paragraphs.

The following features interact with the IBN Class 5 INWATS feature:

- The local automatic message accounting (LAMA) package is a requirement with the INWATS feature. The system must generate a LAMA record for a IBN terminated INWATS call.
- The system does not support queuing of INWATS calls when the customer group is in night service. The system does not support queuing when the system directs calls to a night service station or Trunk Answer From Any Station (TAFAS) device.
- The system checks terminating restriction codes when the attendant extends a call to a station.
- An attendant can extend INWATS calls to a station in the following parts:
 - the customer group
 - a plain old telephone service (POTS) line
 - an OUTWATS facility
 - another INWATS number
 - an IBN or POTS trunk
- Normal feature interaction applies if an attendant extends the call. Normal feature interaction applies if the INWATS call must terminate on an IBN night service line.

Activation/deactivation by the end user

The IBN Class 5 INWATS feature does not require activation or deactivation by the end user.

Billing

The IBN Class 5 INWATS feature does not affect billing.

IBN Class 5 INWATS (continued)

Station Message Detail Recording

The IBN Class 5 INWATS feature does not affect Station Message Detail Recording.

Datafilling office parameters

The IBN Class 5 INWATS feature does not affect office parameters.

Datafill sequence

The tables that require datafill to implement the IBN Class 5 INWATS feature appear in the following table. The tables appear in the correct entry order.

Datafill tables required for IBN Class 5 INWATS

Table	Purpose of table
VIRTGRPS	Virtual Facilities Group Table
IBNRTE	IBN Route Table
DNROUTE	Directory Number Route Table
IBNXLA	IBN Translation Table
DIGMAN	Digit Manipulation Table

Datafilling table VIRTGRPS

Table VIRTGRPS (Virtual Facility Groups) provides a mechanism to eliminate loop-around trunks. Loop-around trunks start IBN INWATS and OUTWATS. Loop-around trunks provide equal access capabilities. Enter data in table VIRTGRPS to define each VFG that the INWATS feature uses.

Datafill for the IBN Class 5 INWATS feature for table VIRTGRPS appear in the following table. The fields that apply to the IBN Class 5 INWATS feature appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table VIRTGRPS

Field	Subfield or refinement	Entry	Description
	INCTYPE	POTS	Incoming Type. This subfield specifies the incoming type. Enter POTS when the call enters the POTS translation environment.

IBN Class 5 INWATS (continued)**Datafill example for table VIRTGRPS**

Sample datafill for table VIRTGRPS appears in the following example.

MAP example for table VIRTGRPS

KEY	DATA	OPTIONS
IBNNTI	SIZE 4	POTS N 0 N \$

Datafilling table IBNRTE

Table IBNRTE (IBN Route) contains route lists that a route reference index number identifies. Enter data in table IBNRTE to define the correct routing for the INWATS feature.

Datafill for the IBN Class 5 INWATS feature for table IBNRTE appears in the following table. The fields that apply to the IBN Class 5 INWATS feature appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table IBNRTE

Field	Subfield or refinement	Entry	Description
	IBNRTSEL	IW	IBN Route Selector. This subfield specifies the IBN route selector required when the call is INWATS to the customer group. Enter IW.

Datafill example for table IBNRTE

Sample datafill for table IBNRTE appears in the following example.

MAP example for table IBNRTE

RTE	RTELIST
2	(IW 0 226 IBNBNR 0)\$

Datafilling table DNROUTE

Table DNROUTE (Directory Number Route) contains DNs in the switch. This table can contain a DN that identifies a route, not a line equipment number (LEN). Table DNROUTE associates a DN with a specified trunk group member. Enter data in table DNROUTE to define the INWATS DN. The table must define the INWATS DN because the number is not assigned to an LEN.

IBN Class 5 INWATS (continued)

Datafill for the IBN Class 5 INWATS feature for table DNROUTE appears in the following table. The fields that apply to the IBN Class 5 INWATS feature appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table DNROUTE

Field	Subfield or refinement	Entry	Description
DNRESULT		see subfield	Directory Number Results. This field contains subfields DNSEL, FEATURE, DEST, DIDORG, CUSTNAME, and SUBGRP. Subfield DNSEL applies to this feature.
	DNSEL	T	Directory Number Selector. This subfield specifies the type of DN selector. Enter T.
Note: Changes cannot occur to an LDN tuple in table DNROUTE. Delete the tuple and add the tuple again.			

Datafill example for table DNROUTE

Sample datafill for table DNROUTE appears in the following example.

MAP example for table DNROUTE

AREACODE	OFCCODE	STNCODE	DNRESULT			
613	621	1000	T	CUST1	0	28 Y

Datafilling table IBNXLA

Table IBNXLA (IBN Translation) stores the data for the digit translation of calls from one of the following locations:

- an IBN station
- an attendant console
- an incoming IBN trunk group
- the incoming side of a two-way IBN trunk group.

Enter data in table IBNXLA for the preliminary translator that tables XLANAME and NCOS define. The retranslation of the DN that table DNROUTE defines does occur in this table. This table defines the number on which the call terminates.

IBN Class 5 INWATS (continued)

Datafill for the IBN Class 5 INWATS feature for table IBNXLA appears in the following table. The fields that apply to the IBN Class 5 INWATS feature appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table IBNXLA

Field	Subfield or refinement	Entry	Description
	TRSEL	EXTN	Translation Selector. This subfield specifies the extension selector. Enter EXTN.

Datafill example for table IBNXLA

Sample datafill for table IBNXLA appears in the following example.

MAP example for table IBNXLA

KEY	RESULT
BNRXLA 0	EXTN N N 619 351 7 111

Datafilling table DIGMAN

Table DIGMAN (Digit Manipulation) allows the end user to adopt a specified dialing plan. A destination code determines this dialing plan. The end user adopts this plan for the private network. The switching unit is a part of the private network. The end user that the switch serves can dial a specified number of digits to reach a called party. The number of digits in the connection does not affect the number of digits that the end user dials. Enter data in table DIGMAN to include the necessary digit manipulation for INWATS calls.

Datafill for the IBN Class 5 INWATS feature for table DIGMAN appears in the following table. The fields that apply to the IBN Class 5 INWATS feature appear in this table. For a description of the other fields, see the data schema section of this document.

Datafilling table DIGMAN

Field	Subfield or refinement	Entry	Description
	DIGCOM	INC	Digit Command. This subfield specifies the digit command. Enter INC for the include digit command.

IBN Class 5 INWATS (end)

Datafill example for table DIGMAN

Sample datafill for table DIGMAN appear in the following example.

MAP example for table DIGMAN

DMIKEY	DMIDATA
10	(INC 100) (REM 3) \$

Tools for verifying translations

The IBN Class 5 INWATS feature does not use tools for verifying translation.

SERVORD

The IBN Class 5 INWATS feature does not use SERVORD.

IBN Class 5 Psuedo OUTWATS

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS10 and later versions

Requirements

To operate, the IBN Class 5 Psuedo OUTWATS feature has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The IBN Class 5 Psuedo OUTWATS is for users that make many toll calls. Geographical regions provide this ability. Another name for geographical regions is zones. The subscriber purchases the required number of lines for each zone. The zones contain the following two types:

- intrastate

Zones eight, nine, and zero are for areas the size of the home state of the customer.

- interstate

Zones one through six cover the remainder of the country. These zones do not include the home state of the customer.

The numbering plan area (NPA) in concentric zones around the home NPA (HNP) arranges coverage. Each zone contains zones of the same type. The zone type can be intrastate or interstate.

Operation

In the MDC Class 5 office, you do not always require dedicated circuit groups for OUTWATS. The size of the VFG that represents an OUTWATS facility determines the number of outgoing calls on a specified facility.

To access the IBN Class 5 Psuedo OUTWATS feature, dial an access code. A single access code can be available for all the zones. A single access code can be available for each zone.

IBN Class 5 Psuedo OUTWATS (continued)

User interface

The IBN Class 5 Psuedo OUTWATS feature does not affect user interface.

Translations table flow

A caller can dial an OUTWATS access code that table IBNXLA (IBN Translation) defines. Table IBNXLA directs this call to a route in table IBNRTE (IBN Route).

Table IBNRTE points to a virtual facility group (VFG) in table IBNRTE. Table IBNRTE also defines the zone that the caller can access.

Table IBNRTE contains a line attribute index that points to table LINEATTR (Line Attribute). Table LINEATTR contains a true serving numbering plan area (NPA). The system uses this NPA to access table OWATZONE. The system must access this table to determine the zone of the called number. The system accesses table ZONEORDR to determine if the zone of the called number contains the zone from table IBNRTE. If the zone of the called number contains the zone from table IBNRTE, the call can continue. If the zone of the called number does not contain the zone from table IBNRTE, the system blocks the call. The zone from table IBNRTE is the zone that the caller can call.

Translations notes for OUTWATS using serving translation schemes

BCS25 and below

The MDC subscribers use serving translation schemes (STS) for private network routing. If the STS is not in one of the first 16 positions in table HNPACONT, the system denies access to OUTWATS VFGs. You can use the OW selector to access these VFGs through table IBNRTE. The system denies access because Table ZONEORDR allows the entry of NPAs. The system allows the entry of one NPA in the first 16 positions in table HNPACONT. If correct entry of data in ZONEORDR does not occur, the system records the call as an OUTWATS call that is not correct. The system blocks the call.

If the call passes the check in table ZONEORDR, the call enters the VFG and transfers through the second stage of translations. The VFG in table IBNRTE points to a line attribute in table LINEATTR. The line attribute has a line class code of OWT and a true serving NPA. The system uses a true NPA to perform additional check in tables OWATZONE and ZONEORDR.

In BCS25 and previous versions, a correlation occurs between STSs and NPAs. The STSs appear in Table HNPACONT in position 17 and higher positions. The NPAs appear in positions 1 to 16. The STS in position 17 connects to the NPA in position 1. The STS in position 18 connects to the NPA in position 2. The connections continue in this method. This correlation

IBN Class 5 Psuedo OUTWATS (continued)

allows the system to screen calls that have an STS in position 17 or higher. The system screens the calls in tables OWATZONE and ZONEORDR. This correlation cannot occur in BCS26.

BCS26 and later versions

The operating company changes OUTWATS software for BCS26 and later versions.

The system can perform a zone check during the first stage of translations. The system performs this check if the STS in table LINEATTR is in position 1 to 16 in table HNPACONT. The system performs a zone check like the check in BCS25 in tables OWATZONE and ZONEORDR.

If the STS is in position 17 or higher in table HNPACONT, the system does not check tables OWATZONE and ZONEORDR. The system does not use the correlation between STSs and NPAs to check the zone. The call can continue to the next stage of translations.

Limits

Code restriction levels (CRL) impose limits on the called number. The CRLs do not impose limits on the access code.

Interactions

The IBN Class 5 Psuedo OUTWATS feature does not have functionality interactions.

Activation/deactivation by the end user

To access the IBN Class 5 Psuedo OUTWATS feature, dial an access code. A single access code can be available for all zones or for each zone.

Billing

The IBN Class 5 Psuedo OUTWATS feature does not affect billing.

Station Message Detail Recording

The IBN Class 5 Psuedo OUTWATS feature does not affect Station Message Detail Recording.

Datafilling office parameters

The IBN Class 5 Psuedo OUTWATS feature does not affect office parameters.

IBN Class 5 Psuedo OUTWATS (continued)

Datafill sequence

The tables that require datafill to implement the IBN Class 5 Psuedo OUTWATS feature appear in the following table. The tables appear in the correct entry order.

Datafill requirements for IBN Class 5 Psuedo OUTWATS

Table	Purpose of table
LINEATTR	Table LINEATTR (Line Attribute) contains the attributes assigned to a line.
VIRTGRPS	Table VIRTGRPS (Virtual Facility Groups) provides a mechanism to eliminate loop-around trunks.
IBNRTE	Table IBNRTE (IBN Route) contains route lists. A route reference index number identifies the route lists.
IBNXLA	Table IBNXLA (IBN Translation) stores the data for the digit translation of calls from the following parts: • an IBN station • an attendant console • an incoming IBN trunk group • the incoming side of a two-way IBN trunk group
ZONEORDR	Table ZONEORDR (Zone Order) contains the zones for each NPA.
OWATZONE	Table OWATZONE (OUTWATS Zone) contains data that must meet the needs of subscribers that make many long distance calls.

Datafilling table LINEATTR

Table LINEATTR (Line Attribute) contains the attributes that you assign to a line. Enter data in table LINEATTR to define the attributes for the VFG. The line attribute to which a plain old telephone service (POTS) VFG points, must have a true NPA in field STS. The line attribute must not have an STS in field STS. Enter true NPAs in positions 1 to 16 in table HNPACONT.

Datafill for the IBN Class 5 Psuedo OUTWATS for table LINEATTR appears in the following table. The fields that apply to the IBN Class 5 Psuedo

IBN Class 5 Psuedo OUTWATS (continued)

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

Datafilling table LINEATTR

Field	Subfield or refinement	Entry	Description
LCC		OWT	Line Class Code. This field specifies the line class code assigned to the line attribute index. Enter OWT.
SFC		NILSFC	International Subscriber Feature Class. This field specifies the international subscriber feature class. Enter NILSFC.
DGCLNAME		NIL	Digit Analysis Tables Entry Point. This field specifies the digit analysis tables entry point. Enter NIL.

Datafill example for table LINEATTR

Sample datafill for table LINEATTR appears in the following example.

MAP example for table LINEATTR

LAIDX	LCC								
	CHGCLSS	COST	SCRNCL	LTG	STS	PRTNM	LCANANE	LCABILL	
							ZEROMPOS	HOT	TRAFSN
0									0
MRSA	SFC	LATANM	MDI	IXNAME	DGCLNAME	FANIDIGS			
		RESINF							
7	OWT								
	NONE	NT	NSCR	0	619	OWT1	LOW9	N	N
						NONE		N	0
NIL	NILSFC	NILLATA	0	NIL	NIL		00		
		N							

Datafilling table VIRTGRPS

Table VIRTGRPS (Virtual Facility Groups) allows you to eliminate loop-around trunks. Loop-around trunks implement IBN INWATS and OUTWATS and provide equal access abilities. Enter data in table VIRTGRPS to define each virtual facility group (VFG) that the IBN Class 5 Psuedo OUTWATS feature uses.

IBN Class 5 Psuedo OUTWATS (continued)

Datafill for the IBN Class 5 Psuedo OUTWATS feature for table VIRTGRPS appears in the following table. The fields that apply to the IBN Class 5 Psuedo OUTWATS feature appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table VIRTGRPS

Field	Subfield or refinement	Entry	Description
	INCTYPE	POTS	Incoming Type. This subfield specifies the incoming type. Enter POTS.

Datafill example for table VIRTGRPS

Sample datafill for table VIRTGRPS appears in the following example.

MAP example for table VIRTGRPS

KEY	DATA	OPTIONS
IBNNTI	SIZE 4	POTS N 0 N \$

Datafilling table IBNRTE

Table IBNRTE (IBN Route) contains route lists that a route reference index number identifies. Enter data in table IBNRTE to make sure the appropriate routing for the OUTWATS feature is available. To route to a VFG, use a route type of V.

Datafill for the IBN Class 5 Psuedo OUTWATS feature for table IBNRTE appears in the following table. The fields that apply to the IBN Class 5 Psuedo OUTWATS feature appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table IBNRTE

Field	Subfield or refinement	Entry	Description
	IBNRTSEL	OW	IBN Route Selector. This subfield specifies the IBN route selector. Enter OW.
	RTETYPE	S, V, or T	Route Type. This subfield specifies the route type. Enter S, V, or T.

IBN Class 5 Psuedo OUTWATS (continued)

Datafill example for table IBNRTE

Sample datafill for table IBNRTE appears in the following example.

MAP example for table IBNRTE

RTE	RTELIST
2	(OW N N N 0 V IBNBNR 0)\$

Datafilling table IBNXLA

Table IBNXLA (IBN Translation) contains the data for the digit translation of calls from the following locations:

- an IBN station
- an attendant console
- an incoming IBN trunk group
- the incoming side of a two-way IBN trunk group

Enter data in table IBNXLA to define the access codes for the OUTWATS feature.

Datafill for the IBN Class 5 Psuedo OUTWATS feature for table IBNXLA appears in the following table. The fields that apply to the IBN Class 5 Psuedo OUTWATS feature appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table IBNXLA

Field	Subfield or refinement	Entry	Description
	TRSEL	ROUTE	Translation Selector. This subfield specifies the translation selector. Enter ROUTE.
	TABCLLI	T	Table or CLLI. This subfield specifies the table or CLLI selector. Enter the table name selector T.
	TABID	IBNRTE	Table Identifier. This subfield specifies the table to which translation must route. Enter IBNRTE.

Datafill example for table IBNXLA

Sample datafill for table IBNXLA appears in the following example.

IBN Class 5 Psuedo OUTWATS (continued)**MAP example for table IBNXLA**

KEY										RESULT	
BNRXLA	83	ROUTE	N	N	2	Y	9	12	BNRDIG	Y	T
										IBNRTE	6

Datafilling table ZONEORDR

Table ZONEORDR (Zone Order) contains the zones for each NPA. Enter data in Table ZONEORDR to define the zones for each NPA.

Datafill for the IBN Class 5 Psuedo OUTWATS feature for table ZONEORDR appear in the following table. Fields that apply to The IBN Class 5 Psuedo OUTWATS feature appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table ZONEORDR

Field	Subfield or refinement	Entry	Description
SVGNPA		NPA	Serving NPA. This field specifies the 3-digit serving or home NPA. Enter the serving NPA.
ZONESETS		up to 13 OUTWATS zones	Zone Sets. This field specifies the order of the OUTWATS zones in the serving NPA. Enter a maximum of 13 OUTWATS zones in ordered groups. Spaces separate these groups.

Datafill example for table ZONEORDR

Sample datafill for table ZONEORDR appears in the following example.

MAP example for table ZONEORDR

SVGNPA										ZONESETS	
407										(0) (12345) (67) (8) (9) (A) (B) (C) \$	

Datafilling table OWATZONE

Table OWATZONE (OUTWATS Zone) contains data for users that make many long distance calls. This table provides the data in the form of geographical regions called zones. The subscriber purchases the required number of lines for each zone. Enter data in Table OWATZONE to list the zone for each set of digits associated with each home or serving NPA.

IBN Class 5 Psuedo OUTWATS (end)

Datafill for the IBN Class 5 Psuedo OUTWATS feature for table OWATZONE appears in the following table. The fields that apply to the IBN Class 5 Psuedo OUTWATS feature appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table OWATZONE

Field	Subfield or refinement	Entry	Description
OWATCODE		see subfields	OUTWATS Code. This field contains of subfields SVGNPA and DIGITS.
	SVGNPA	NPA	Serving NPA. This subfield specifies the 3-digit serving or home NPA. Enter the serving NPA.
	DIGITS	up to 18 digits	Digits. This subfield specifies the digits that define the zone. Enter a maximum of 18 digits.
ZONE		zone number	OUTWATS Zone. This field specifies the OUTWATS zone number assigned to the key OWATCODE. Enter the zone number.

Datafill example for table OWATZONE

Sample datafill for table OWATZONE appears in the following example.

MAP example for table OWATZONE

OWATCODE	ZONE
407 201	1

Tools for verifying translations

The IBN Class 5 Psuedo OUTWATS feature does not use tools for verifying translations.

SERVORD

The IBN Class 5 Psuedo OUTWATS feature does not use SERVORD.

IBN & ESB Compatibility

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS14 and later versions

Requirements

To operate, IBN & ESB Compatibility has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

Callers can dial 911 or other emergency access numbers to report an emergency to the emergency service bureau (ESB). The ESB operates in the plain old telephone service (POTS) environment. With the implementation of IBN and IBN compatibility with POTS, ESB had to become compatible with IBN.

The ESB lines and trunks are always in the POTS environment. As the two environments became compatible, ESB and IBN must correspond.

The IBN & ESB Compatibility eliminates some of the concerns about the system before this feature. Before the addition of this feature, a call to the ESB was exited before the ESB was on-hook. The call to the ESB came from an attendant console (AC). To make sure the call completes, the ESB must be the party that leaves a call first.

A party in a two-way call to the ESB cannot go on-hook to leave the call. If the other party goes on-hook before the ESB, the system places the call on hold. The ESB causes the system to send ringback to the originator. Ringback does not apply if the party to go on-hook is part of the three-way calling feature. Ringback does not apply if the party to go on-hook is a multiport call in progress. The held party can be an off-hook IBN station and the system can apply ringback. If this condition occurs, the station receives a receiver off-hook treatment (ROH).

IBN & ESB Compatibility (continued)

Operation

Any IBN user can dial 911, 9911, or another emergency access number to contact the ESB. The following types of calls are possible with the IBN & ESB Compatibility feature:

- IBN line calls to the ESB line
- IBN line calls to the ESB trunk
- IBN trunk calls to the ESB line
- IBN trunks calls to the ESB trunk
- AC calls to the ESB line
- AC calls to the ESB trunk
- console extension of IBN and POTS lines to the ESB line
- console extension of IBN and POTS lines to the ESB trunk
- console extension of IBN and POTS trunks to the ESB line
- console extension of IBN and POTS trunks to the ESB trunk
- ESB calls to a console that are extended
- ESB calls to a console that are not extended
- three-way calls that involve the ESB
 - ESB and two IBN parties
 - ESB, a POTS station, and an IBN station
 - other available combinations
- AC calls extending calls to the ESB from multiport IBN calls

Translations table flow

The IBN & ESB Compatibility does not affect translations table flow.

Limits

The IBN & ESB Compatibility does not have limits.

Interactions

The interactions between IBN & ESB Compatibility and other functionalities appear in the following paragraphs.

IBN & ESB Compatibility (continued)

The following features interact with IBN & ESB Compatibility:

- **Call Back Queuing.** Call Back Queuing (CBQ) can activate for an emergency service line (ESL) or a virtual facility group (VFG). The CBQ can activate on a VFG where the target physical trunk is an ESB trunk.
- **Call Forwarding Universal.** You cannot use Call Forwarding Universal (CFU) on calls to the ESB. This condition applies to all calls from stations. This condition applies if the CFU feature is active.
- **Call Park.** If a call connects to the ESB, Call Park (PRK) cannot activate. If the station flashes or an attempt occurs to place the call in PRK, the system ignores the call.
- **Call Transfer, Three-Way Calling.** The ESB can be part of a three-way call. Three-way calling (3WC) has restrictions. The system blocks call transfer (CXR) blocks. Call transfer cannot activate. The following are additional restrictions for 3WC:
 - If a station is talking with the ESB, the system ignores flashes.
 - The party that initiates the call cannot go on-hook until the ESB goes on-hook.
 - The originator of the call cannot transfer the call to another party if the ESB is off-hook. The originator is in a held state until the ESB goes on-hook.
 - The originator of a 3WC cannot add another station in the call.
 - The system ignores flashes that the second party in the 3WC makes.
 - The second leg of a 3WC can go on-hook at any time. The system does not keep the second leg of a 3WC in a held state.
- **Call Waiting.** The system ignores attempts by calls involved with the ESB or an ESL to flash. Call Waiting (CWT) cannot activate during this state. The caller hears busy treatment on attempts to access calls in CWT.
- **Executive Busy Override.** A caller that attempts to activate the Executive Busy Override (EBO) feature receives reorder treatment. The caller receives reorder treatment when the caller attempts to activate the EBO on calls in the ESB/ESL process.
- **Permanent Hold.** A station user can attempt to place the ESB on hold during a call to the ESL. When this action occurs, the system ignores the flash to activate the feature.
- **Ring Again.** A station can activate Ring Again (RAG) for an ESL or CBQ in a VFG. The station performs this action when the target physical trunk is an ESB trunk.

IBN & ESB Compatibility (continued)

- Speed Calling. Speed Calling features can access the ESB.
- Station Established Conference. If the call to the ESB is two-way, a conference call cannot occur because the system ignores flashes. The call to the ESB can establish while the conference call feature is active. If this condition occurs, the system cannot add additional stations. Stations that were not the originator can go on-hook and release from the call. The originator must remain on the line until the ESB goes on-hook.

Interaction between the ESB and ACs causes different feature reactions. The AC has control of any call in which the AC participates. The attendant does not make malicious calls or abuse the ESB. The AC has additional flexibility to activate features because of this condition.

- Attendant Conference. The Attendant Conference feature functions normally when the attendant is in the talking state with the ESB.
- Busy Verify Line. If the attendant attempts to activate the Busy Verify Line (BVL) feature, the system ignores the attempt. The BVL is an option available only to IBN lines in the same customer group. When the attendant attempts to activate BVL, **DISALLOWED** appears on the console display.
- Busy Verify Trunk. Busy Verify Trunk (BVT) follows the same guidelines as BVL. The BVT only applies to IBN trunks that belong to the same customer group. The system ignores attempts to activate BVT.
- Call Park. Call Park (PRK) cannot function when a call connects to the ESB. The system ignores attempts to activate PRK.
- Exclude Destination. If a call is involved with an ESB, Exclude Destination functions normally.
- Exclude Source. If a call is involved with an ESB, Exclude Source functions normally.
- Hold. If the attendant talks with the ESB, Hold can activate. The ESB can signal the attendant with the held loop recall feature. The source and destination flash. The attendant receives an alert treatment.
- Lockout. When an AC is involved with a call to the ESB, lockout is not correct for that call.
- Release. The attendant cannot release a call that is in contact with the ESB. The system screens the key. The key cannot operate during an ESB call. **DISALLOWED** appears on the AC display.
- Release Destination. If an ESB is involved in a call, the system ignores attempts to remove the ESB from the call. **DISALLOWED** appears on the console display.

IBN & ESB Compatibility (end)

- Release Source. The system ignores attempts to remove the ESB from a call. DISALLOWED appears on the AC display.
- Secrecy. The Secrecy feature functions normally during a call to the ESB.
- Signal Destination. When an attendant is in contact with the ESB, Signal Destination functions normally. If the terminator is an ESB trunk or ESL, the system sends an on-hook wink or flash.
- Signal Source. When an attendant is in contact with the ESB, the Signal Source feature functions normally. If the terminator is an ESB trunk or ESL, the system sends an on-hook wink or flash.
- Speed Calling. The attendant can access the ESB through Speed Calling.

Activation/deactivation by the end user

The IBN & ESB Compatibility does not require activation or deactivation by the end user.

Billing

The IBN & ESB Compatibility does not affect billing.

Station Message Detail Recording

In the IBN environment, station message detail recordings (SMDR) generate for the ESB.

Datafilling office parameters

The IBN & ESB Compatibility does not affect office parameters.

Datafill sequence

The IBN & ESB Compatibility does not affect datafill.

Tools for verifying translation

The IBN & ESB Compatibility does not use tools that verify translations.

SERVORD

The IBN & ESB Compatibility does not use SERVORD.

IBN Optional Call Forward Links

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS26 and later versions

Requirements

To operate, IBN - Optional Call Forward Links has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The IBN - Optional Call Forward Links sets the number of times, or links, that calls can forward in sequence. This feature sets the number of links from 1 to 5. This feature sets this number on a customer group for a Meridian Digital Centrex (MDC) or Residential Enhanced Services (RES) subscriber. This link value applies to different types of the call forward features.

Operation

Before IBN - Optional Call Forward Links, the maximum number of times a call could forward in sequence was 5. The IBN - Optional Call Forward Links allows the maximum number of links to be programmable on a customer group. The link range is 1 to 5. The default is 5.

An incoming call to an MDC or RES telephone with the call forward feature can forward. In this condition, the system checks incoming calls to determine if the next call forward link exceeds the maximum link value. If the link exceeds the value, the system does not allow call forwarding. The system gives the call appropriate treatment.

Option CFXOL designates the number of call forward links in Table CUSTSTN. The number of links are from 1 to 5. The default is 5.

Translations table flow

The IBN - Optional Call Forward Links does not affect translations table flow.

Limits

The system can forward a call a maximum of five times.

IBN Optional Call Forward Links (continued)

Interactions

The interactions between IBN - Optional Call Forward Links and other functionalities appear in the following paragraphs.

A plain old telephone service (POTS) line can be in the call forward chain. If a POTS line is the base station, the maximum number of times that the system can forward the call is five. A POTS line in the call forward chain does not affect how this feature functions. This condition does not apply to a POTS line that is in the base station.

This feature is an enhancement to the call forwarding features. This feature does not affect how the call forwarding features interact with other features.

Activation/deactivation by the end user

The IBN - Optional Call Forward Links does not require activation or deactivation by the end user.

Billing

The IBN - Optional Call Forward Links does not affect billing.

Station Message Detail Recording

The IBN - Optional Call Forward Links does not affect Station Message Detail Recording.

Datafilling office parameters

The IBN - Optional Call Forward Links does not affect office parameters.

Datafill sequence

The tables that require datafill to implement IBN - Optional Call Forward Links appear in the following table. The tables appear in the correct entry order.

Datafill requirements for IBN - Optional Call Forward Links

Table	Purpose of table
CUSTSTN	Customer Group Station Option. This table contains the station options assigned to each customer group.

Datafilling table CUSTSTN

Table CUSTSTN (Customer Group Station Option) contains the station options assigned to each customer group.

IBN Optional Call Forward Links (end)

The datafill for IBN - Optional Call Forward Links for table CUSTSTN appears in the following table. The fields that apply to IBN - Optional Call Forward Links appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CUSTSTN

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		1 to 16 character alphanumeric name	Customer Group Name. This field specifies the 1 to 16 character alphanumeric name assigned to the customer group. Enter the customer group name.
OPTNAME		CFXOL	Option Name. This field specifies the call forwarding optional lines option. Enter CFXOL.
OPTION		see subfields	Option. This field contains subfields OPTION and MAXLINK.
	OPTION	CFXOL	Option. This subfield specifies the call forwarding optional lines option. Enter CFXOL.
	MAXLINK	1 to 5	Maximum Optional Links. This subfield specifies the maximum optional links. Enter a value from 1 to 5. The default value is 5.

Datafill example for table CUSTSTN

Sample datafill for table CUSTSTN appears in the following example.

MAP example for table CUSTSTN

CUSTNAME	OPTNAME	OPTION
MDCGRP1	CFXOL	CFXOL 5

Tools for verifying translation

The IBN - Optional Call Forward Links does not use tools that verify translations.

SERVORD

The IBN - Optional Call Forward Links does not use SERVORD.

IBN Trunks with ISUP Signaling

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

NA008 and later versions

Requirements

To operate, IBN Trunks with ISUP Signaling has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- Base ISUP, ISP70001

Description

The IBN Trunks with ISUP Signaling feature enables IBN trunk groups to use Integrated Services Digital Network User Part (ISUP) trunk signaling.

Operation

The ISUP defines the DMS implementation of the T1X1.1 specification of the ISUP part. The Common Channel Signaling System No. 7 (CCS7) product contains the ISUP part. The ISUP uses separate links for the transmission of signaling information to set up and take down calls. With separate links, the system can set up calls faster and shorten holding times for call attempts that fail. With separate links, the system can exchange data that does not apply to interoffice signaling. For example, connected number display does not apply to inter office signaling. The Networked EBS Display feature provides connected number display for calls that originate over ISUP trunks.

IBN trunks

This feature provides IBN trunk group types outgoing (IBNTO), incoming (IBNTI) and two-way (IBNT2) with the ability to use ISUP trunk signaling. The ISUP IBN trunks also provide network connected number display.

The ISUP signaling supports the following current IBN trunk capabilities and features:

- Account Codes (or Authorization Codes)
- Alternate Class of Service
- Alternate Line Screening Code Flag Number

IBN Trunks with ISUP Signaling (continued)

- Alternate Line Screening Code
- Attendant Control of Trunk Group Access
- Attendant Trunk Group Busy Lamps
- Billing Directory Number
- Call Characteristics
- Customer Group Transparency
- Customer Subgroups
- Direct Inward System Access
- Direct Outward Dial Network
- Disconnect Filter Timing
- Distinctive Ringing
- Echo Suppressors
- Electronic Switching Network
- Expensive Route Warning Tone
- Extension Dialing
- Flexible Intercept
- IBN Customer Groups
- Killer Trunks
- Line Screening Codes
- Line Screening Codes Flexible Intercept
- Mass Trunk Conversion
- Network Class of Service
- Network Speed Calling
- Off-Hook Queuing
- OM No Circuit Classes
- Outward Wide Area Telephone Service
- Pad Groups
- Prefix digits
- Private Network Dialing
- Remote Access to Attendant Console
- Select Sequence

IBN Trunks with ISUP Signaling (continued)

- Special Billing Answer Time
- Station Message Detail Recording
- Supervision Types
- Terminating Restriction Codes
- Tie Trunks
- Time of Day Routing
- Traffic Separation Numbers
- Trunk Answer from Any Station
- Trunk Restrictions
- Virtual Facility Groups

IBN trunk features

The following IBN trunk features apply to the use of this feature. The IBN Trunks with ISUP Signaling feature normally supports these IBN trunk features without limits.

Account codes (or authorization codes)

This feature allows the operating company to block, or allow access to specified facilities, or features according to a digit code. The Authorization Code Last feature requires that the caller dial a correct authorization code at the end of normal translations to complete the call.

Loopback trunks provide Authorization Code Last with the IBN Trunks with ISUP Signaling feature. After a caller dials the authorization code and the system validates the code, the system removes the loopback trunk. For additional information, refer to "ISUP/IBN Feature Interaction," and "Loopback Reduction for ISUP/AC."

Answer time

This IBN customer group option allows the system to record calls that a caller makes over "no answer" trunks through Station Message Detail Recording (SMDR). The system subtracts the value for field ANSTIM from the call duration when the system processes the SMDR record. Table CUSTSMDR (Customer Group Station Message Detail Recording Option) contains the entry for this option.

Attendant control of trunk group access

This feature allows the attendant console (AC) to control calls that use specified trunk groups. The attendant can allow the selected call to use a specified trunk group or to reject these types of calls.

IBN Trunks with ISUP Signaling (continued)

Attendant Trunk Group Busy lamps

This feature allows an AC to monitor a specified trunk group. When every trunk of the monitored trunk group become busy, an associated lamp on the console turns on.

Billing DN

Field BILLDN in table TRKGRP (Trunk Group) allows the operating company to bill a specified DN. The operating company can bill a specified DN for calls that tandem through the switch on this trunk group.

Call characteristics and special billing

The following options allow IBN trunks to carry specified call characteristics (CALLCHR) and special billing (SPCLBLG):

- CALLCHR. An IBN trunk can have the following call characteristics assigned:
 - Satellite (SAT) determines if this trunk group uses a satellite. The IBN Trunks with ISUP Signaling feature does not require this option. Field SAT in the ISUP trunk subgroup data provides this characteristic.
 - Digital data (DIGDATA) determines if this trunk group carries digital data. For ISUP IBN trunks, the system does not use field Bearer Capability in the initial address message (IAM) for digital data calls.
- SPCLBLG. This option allows recordable call types (call codes) to associate with automatic message accounting (AMA) records. The system generates AMA records for calls that a caller makes over the trunk group. The SPCLBLG provides the following special billing options:
 - common control switching arrangement (CCSA) - call code 021
 - tandem tie trunk (TDMTT) - call code 032
 - automatic flexible (FX) routing - call code 011
 - electronic tandem switched (ETS) call - call code 085

Customer group transparency

This feature allows the definition of customer group families so that selected IBN features can function between customer groups. These customer groups must belong to the same family. Without this feature, the IBN features can function in the same customer group. The rules of customer group transparency apply to many IBN features. For additional information, refer to "Customer Group Transparency." For the IBN Trunks with ISUP Signaling feature, customer group transparency functions in the same way as for standard IBN trunks.

IBN Trunks with ISUP Signaling (continued)

Customer subgroups

Customer subgroups further refine the customer group philosophy. The IBN lines or trunks that belong to different subgroups can access different ACs in that customer group.

Direct inward system access

The DISA allows an incoming trunk to change class of service if the caller dials an appropriate authorization code. The system uses loopback trunks to provide the DISA with the IBN Trunks with ISUP Signaling feature. After the caller dials the authorization code and routing digits, the system removes the loopback trunk and the call completes normally. Refer to "ISUP/IBN Feature Interaction" and "Loopback Reduction for ISUP/AC."

Direct outward dial network

Direct outward dial network allows IBN subscribers to make direct outward dialed calls. The system uses the IBN Trunks with ISUP Signaling feature to provide this network with restrictions on the method of digit collection.

Disconnect filter timing

This feature allows the operating company to filter *noise* on a trunk. The system can detect an on-hook condition on a trunk, and an off-hook condition in the time frame of the disconnect filter timing (DISCTSEL). In this event, the system ignores the on-hook condition and takes down the call.

For ISUP trunks, the system idles the call associated with the trunk when the system receives a Release (REL) message. This action is standard protocol, and DISCTSEL timing does not apply. If Suspend (SUS) message arrives when the ISUP trunk is in a state in which the system must take down the call. In this occurrence, the disconnect filter timing applies. For example, if the system must hold the call and receives a Resume (RES) message in the DISCTSEL frame, the DISCTSEL applies. The system does not take down the call. For ISUP IBN trunks, the value of DISCTSEL is 20 ms.

Distinctive ringing

Distinctive ringing allows the operating company to give different physical ringing cadence to lines for calls that originate from trunks with this feature.

IBN Trunks with ISUP Signaling (continued)

Electronic switching network

Electronic switching network allows IBN customers to set up a private network with a uniform dial plan. The ESN feature provides a mechanism to transport the following call characteristics from one node to the next.

- An ESN network class of service (NCOS) can map to a DMS-100 switch NCOS.
- Traveling Class of Service (TCOS) for interworking with an electronic tandem network (ETN) switch.
- Satellite Indication (SAT) indicates that a satellite link is already in use. Transmission of the satellite indicator in the ESN call type is not necessary for ISUP IBN trunks. The IAM provides an indication that a satellite link is already in use.
- Coordinated Call Back Queuing (CCBQ) queues for a trunk if the trunk has an all-circuits-busy condition.
- DATA indicates if this call is a data call.

For the IBN Trunks with ISUP Signaling feature, the system provides ESN capability with limits on the method of digit manipulation and transmission. The system does not provide the CCBQ. The ESN data calls that use the IBN Trunks with ISUP Signaling feature, do not use the Bearer Capability field in the IAM.

Expensive route warning tone

Expensive route warning tone (ERWT) allows the system to insert a tone or announcement in a route list to provide a warning to the originator. The warning states that the system routes the call over an expensive facility.

IBN customer groups

The IBN customer groups allows lines and trunks to divide in groups that have the same characteristics. An IBN customer group is like a logical private branch exchange (PBX) that has the properties of a PBX. The IBN customer group is like the PBX without the independent hardware. Members of the same customer group have the same dial plan. Different customer groups can define different dial plans or use the same dial plan. The system administers IBN features and system resources like conference circuits for each customer group.

Line screening codes

Line screening codes (LSC) allow the operating company to block access to certain facilities. The operating company can block access to the facility based on the LSC of the party that wishes to use the facility. To use a mapping function, enter data in table LSCFLAGS (Line Screening Code Flag). The

IBN Trunks with ISUP Signaling (continued)

LSC of the party can use the facility that the set of allowable LSC numbers in table LSCFLAGS does not contain. In this event, the system blocks access. The system enters an index to LSCFLAGS in field LSCFN for each IBNO or IBN2 trunk group.

Mass trunk conversion

Mass trunk conversion allows the conversion of current per trunk signaling (PTS) trunks to convert to ISUP trunks. This feature reduces the datafill required to convert current trunks to the use of ISUP signaling. Mass trunk conversion can convert current IBN trunks to ISUP IBN trunks.

Network class of service

The NCOS allows IBN lines or trunks to be present in the same customer group with different classes of service. For example, this table can restrict the use of expensive facilities by certain lines. The NCOS also provides a mechanism to define a different dial plan in the same customer group.

Network speed calling

Network speed calling allows IBN customer groups to set up tables of frequently dialed numbers to access with an access code.

Off-hook queuing

Off-hook queuing (OHQ) allows the system to queue a call against an outgoing trunk if idle trunks are not available. When a trunk becomes available, the call completes.

Outward wide area telephone service

Outward wide area telephone service (OUTWATS) allows IBN subscribers to set up access code dialing to various geographical regions (zones). The system can use ISUP IBN trunks as OUTWATS trunks. The system also supports inward wide area telephone service (INWATS) and two-way wide area telephone service (2WWATS). The system does not support callback queuing.

Private network dialing

Private network dialing allows IBN subscribers to set up a uniform dial plan in the same way as an ESN. Private network dialing does not provide a mechanism to exchange call characteristics.

Remote access to attendant console

This feature allows the system to route incoming IBN trunks to an AC in the same customer group. This feature also allows the system to route incoming IBN trunks to an AC in another customer subgroup.

The IBN Trunks with ISUP Signaling feature can route to the AC and interwork with the AC. This feature can work with the AC without the use of

IBN Trunks with ISUP Signaling (continued)

loopback trunks. This interworking must meet the limits outlined in "Loopback Reduction for ISUP/AC."

Supervision types

Field SUPV allows the system to receive the expected supervision from the far end. For example, if the far end does not provide a disconnect signal, set field SUPV to NODISC for a REL message. Set field SUPV to NODISC for ISUP.

The ISUP follows strict protocol. This protocol requires that the system must report always answer and disconnect. The ISUP can interwork with a trunk that does not provide disconnect supervision. In this event, set the field SUPV for the ISUP trunk.

Note: The settling in field SUPV affects the operation of different IBN features, like Call Transfer and Conferencing. If you set this field in a way that is not correct, some IBN features do not work in the required fashion.

Tie trunks

Tie trunks allow IBN subscribers to allocate dedicated facilities for frequently dialed locations. The system can use the IBN Trunks with ISUP Signaling feature as tie trunks with limits on digit collection and outpulsing.

Time of day routing

Time of day routing allows selection of certain routes according to the time of day.

Trunk answer from any station

Trunk answer from a station (TAFAS) allows an assigned station to pick up an incoming trunk call.

Trunk restrictions

Trunk limits allow the operating company to make sure one trunk group does not terminate on another selected trunk group. Correct entry of data in tables TKRESCLS and TKRESMAP imposes these restrictions.

Extension dialing provides a mechanism to transmit the extension digits to the terminating office. Table IBNXLA translates the incoming digits to the desired destination.

Virtual facility groups

Virtual facility groups (VFG) allow the definition of virtual trunks. These virtual trunks can limit access to a specified physical trunk group shared by many users. Virtual trunks can provide call back queuing to trunks that do not provide this capability. For example, VFGs can provide off-hook queuing and call back queuing for access to the IBN Trunks with ISUP Signaling feature.

IBN Trunks with ISUP Signaling (continued)

User interface

The IBN Trunks with ISUP Signaling feature does not affect the DMS switch user interface. The user interface for ISUP and IBN trunks applies to the IBN Trunks with ISUP Signaling feature.

Translations table flow

The IBN Trunks with ISUP Signaling feature does not affect translations table flow.

Limits

The following limits apply to the IBN Trunks with ISUP Signaling feature:

- The IBN Trunks with ISUP Signaling feature does not provide the following set of functions:
 - Attendant Busy Verify Trunks
 - Call Back Queuing
 - Data Path Loop Extension
 - Dial Tone Incoming
 - Echo Cancellers
 - Flash
 - FX Toll Denied
 - FX Toll Diverted
 - Meter Reception
 - No Call Transfer
 - Preemption
 - Seizure Only, No Incoming Digits
 - Toll Essential Service
 - Trunk Verification From Designated Station
 - Variable Disconnect Filter Timing
- The IBN Trunks with ISUP Signaling feature does not support the following list of features and capabilities or supports these features but with limits:
 - Disconnect filter timing. The IBN Trunks with ISUP Signaling feature does not support variable length disconnect filter timing. The variable

IBN Trunks with ISUP Signaling (continued)

length disconnect filter timing is in field DISCTSEL in table TRKGRP. The ISUP IBN performs 200 ms disconnect filter timing.

- Dial tone incoming. The ISUP does not support digit dial tone incoming (DTI) collection.
- Overlapped outpulsing. The ISUP trunks do not support digit overlapped outpulsing collection. Features like Overlapped Outpulsing are not available. The system routes ISUP trunks that attempt to use overlapped transmission to partial dial treatment.
- Audio tone detection. The ISUP trunks do not support audio tone detection (ATD).
- Digit manipulation. When you use digit manipulation of outpulsed digits with table DIGMAN (Digit Manipulation), do not use the following commands. The system ignores these commands when the system processes an IBN Trunks with ISUP Signaling call:
 - Pause (PAU): The PAU command allows the outpulsing of a specified number of digits. Enough time must be specified for the system to process these digits at the far end before the outpulsing of following digits. This function is like overlapped transmission. The ISUP does not support this function.
 - Signaling (SIG): The SIG command alters the signaling type during outpulsing. For example, this command outpulses four digits through dial pulse and three digits through multi-frequency. The ISUP builds the digit string and includes the digits in an IAM. The system does not support this command.
 - Answer (ANS): This command reports an answer to the DMS switch when an ATD detects tones. The ISUP does not support ATD.
 - ATD: The ISUP does not support ATD.
 - IBNATD: The ISUP does not support the IBNATD used with ATD and ANS.
- Flashing. The ISUP IBN trunks cannot detect a flash from the far end. The system does not support IBN trunk flash features, like No Call Transfer or Attendant Recall on ISUP IBN trunks.
- Preemption. The IBN Trunks with ISUP Signaling feature does not allow preemption.

Interactions

Descriptions of the interactions between the IBN Trunks with ISUP Signaling feature and other functionalities appear in the following paragraphs.

IBN Trunks with ISUP Signaling (continued)

Meet-Me Conference

The IBN Trunks with ISUP Signaling can be conferees in a meet-me conference. These trunks can initiate a meet-me conference if the trunks pass the limits for this type of initiation.

Attendant consoles

The system can route the IBN Trunks with ISUP Signaling feature to ACs with limits. The feature in "Loopback Reduction for ISUP/AC" describes this process.

ISUP IBN and ISUP interworking

The IBN Trunks with ISUP Signaling interwork with the following ISUP trunk types that the system supports:

- ISUP as local outgoing (TO)
- ISUP as local incoming (TI)
- ISUP as local two-way (T2)
- ISUP as intertoll (IT)
- ISUP as IBN outgoing (IBNTO)
- ISUP as IBN incoming (IBNTI)
- ISUP as IBN two-way (IBNT2)

When the IBN Trunks with ISUP Signaling interwork with other ISUP trunks, the trunks function in ISUP tandem mode. The section "ISUP/IBN Feature Interaction" addresses complications in ISUP tandem operation for call transfer.

ISUP IBN and PTS interworking

The IBN Trunks with ISUP Signaling interwork with a PTS trunk that interworks with ISU. These trunks are:

- local outgoing (TO)
- local incoming (TI)
- local two-way (T2)
- intertoll (IT)
- IBN outgoing (IBNTO)
- IBN incoming (IBNTI)
- IBN two-way (IBNT2)
- TOPS

IBN Trunks with ISUP Signaling (continued)

- loopback trunks (LPBK)
- PBX trunks superCAMA (SC)
- testlines

Connected Number Display

Before this feature, calls that originated over IBN trunks displayed the common language location identifier (CLLI) of the incoming IBN trunk group. Calls displayed the CLLI on a Meridian business set (MBS) display.

The feature Networked EBS Display provides connected number display for calls that originate over ISUP trunks. With Networked MBS Display, a 7- or 10-digit connected number appears. For intragroup IBN line-to-IBN line calls, the extension digits of the calling party appear on the called party display.

For details on intragroup calls and customer group transparency, refer to "Customer Group Transparency." The connected number over IBN Trunks with ISUP Signaling can be available. When this condition occurs, IBN Trunks with ISUP Signaling includes the extension digit display. Table CUSTSTN defines the number of extension digits to display.

The following rules govern if use of the extension display occurs:

- For the IBN Trunks with ISUP Signaling group datafill, field INTRAGRP must contain Y.
- The IBN Trunks with ISUP Signaling and the called IBN line must be in the same customer group family.
- The translations in table IBNXLA route the IBN Trunks with ISUP Signaling to the called IBN line. Field INTRAGRP must contain Y.
- For Table CUSTSTN, field DISPDIGS must contain the number of digits to display.

If one of the checks fails, the display defaults to a 7- or 10-digit display. The address presentation indicator to Presentation Restricted. Messaging can be without the calling/called party address parameters. If one of these conditions occurs only, the CLLI of the incoming ISUP trunk appears.

This feature does not change the display of the calling number for ISUP calls that the system routes to an AC.

This feature does not use extension display for calls that Call Forwarding redirects outside the customer group family.

IBN Trunks with ISUP Signaling (continued)

If the system forwards the call in the customer group family, extension display shows the connected number and the redirected number. The connected number can be different than the dialed number on the display of the originator. When this condition occurs, the system does not use the extension display of the connected number, and a 7- or 10-digit display appears. This restriction occurs because current protocol cannot determine if the connected party is in the same customer group family.

Activation/deactivation by the end user

The IBN Trunks with ISUP Signaling feature does not require activation or deactivation by the end user.

Billing

Standard IBN trunk billing is available for the IBN Trunks with ISUP Signaling feature. An example of standard IBN trunk billing is AMA. The system generates the same logs and log format for standard IBN trunks and for IBN Trunks with ISUP Signaling.

This feature does not change AMA billing. The system continues to output billing DN from the trunk group datafill to the AMA101 log and the tape record. The system outputs the billing DN even if assignment of option NETWORK in table CUSTSMR (Customer Group SMDR Option) does not occur. The system does not output the calling DN from the IAM to the AMA system.

Station Message Detail Recording

This feature changes the Station Message Detail Recording (SMDR). The SMDR generates a networked SMDR extension record for calls that involve the IBN Trunks with ISUP Signaling feature. The SMDR generates this record if the addition of option NETWORK occurs to a specified customer group. Datafill in table CUSTSMR adds this option.

The IBN Trunks with ISUP Signaling feature changes SMDR to output the calling DN in a new extension record. The calling DN is from the IAM. Addition of option NETWORK occurs to table CUSTSMR to control if the system generates the new extension record. If the addition of option NETWORK occurs to table CUSTSMR for a specified customer group, the following occurs. ISUP IBN incoming calls for that customer group generate the networked SMDR extension record. Incoming calls from non-ISUP IBN trunks do not generate the networked SMDR extension record. This condition occurs even if assignment of option NETWORK does not occur.

IBN Trunks with ISUP Signaling (continued)

Networked SMDR extension record

The networked SMDR extension record includes the following fields:

- record code - The value is a 2-character code, DA. This code identifies the networked SMDR extension record.
- trunk group ID - This field is a 3-digit binary number. The system converts this number to the CLLI code of the ISUP IBN trunk group associated with this call record. The trunk group ID must match the trunk group ID from the most recent main call record, codes D1, D2, D3, or D4.
- spare - This field is a 1-digit field left as a spare.
- trunk member ID - This field is a 4-digit binary number. This number represents that represents the trunk member ID associated with this call record. The trunk member ID must match the trunk member ID from the most recent main call record, codes D1, D2, D3, and D4.
- network CLID - This field is a 10-digit calling DN from the IAM.
- network CLID - This field is an 18-digit calling DN from the IAM.

The following example of an SMDR record contains the networked SMDR extension record. For a description, see the table that follows the example.

Networked SMDR extension record example

```
*REC CODE:D1  CUSTGRP CLLI:002  ORIGTYPE:3
ORIGID:243A0002AAA
DATA CALL ID:0  INFO DIGITS:40  CONS NO:FF  SUBGRP:0  TRM
TYPE:0
TERM ID:6137224213A0  RTE INFO:0  DAY=146  TIME:HR=17  MIN=11
SEC=11
ELAPSED TIME=0000005  ORIG FC:0  TERM FC:0  CLD NO:26613AAAAAAA
REC CODE: DA  ORIGINATION TRUNK: 243  SPARE: A  MEMBER: 0002
NETWORK CLID: 5196621431
```

Information for fields in the networked SMDR extension record example appears in the following table.

Networked SMDR extension field information (Sheet 1 of 3)

Field	Information
D1	record code for SMDR short format
002	customer group number
3	orig type (trunk)

IBN Trunks with ISUP Signaling (continued)**Networked SMDR extension field information (Sheet 2 of 3)**

Field	Information
243	trunk group ID
A	spare
0002	trunk member ID
AAA	spare
0	answer type
40	route information digits
FF	console number
0	subgroup
0	term type (station)
6137224213	station billing DN
A0	spare
0	route information digit
146	start time (day)
17	start time (hour)
11	start time (minute)
11	start time (second)
000005	elapsed time (seconds)
0	originating feature code
0	terminating feature code
26613AAAAAAA	called digits
DA	networked SMDR extension record code
243	trunk group ID
A	spare

IBN Trunks with ISUP Signaling (continued)

Networked SMDR extension field information (Sheet 3 of 3)

Field	Information
0002	trunk member ID
5196621431	networked CLID

Defining the SMDR call record fields

Each main call record contains a maximum of 16 fields. Each field contains specified data on a call. See the *Meridian Digital Centrex Station Message Detail Recording Reference Guide*, 297-2071-119 for details.

Record types

The following SMDR call record types include the networked SMDR extension record.

Code	Title (record type)
D1	Short format SMDR call record. A short format indicates that the caller dialed a maximum of 12 digits.
D2	Short format network evaluation, reporting, and verification (NERVE) call record. A short format indicates that the caller dialed a maximum of 12 digits.
D3	Long format SMDR call record. A long format indicates that the caller dialed more than 12 digits.
D4	Long format NERVE call record. A long format indicates that the caller dialed more than 12 digits.

Limits for networked SMDR extension records

The following limits apply to networked SMDR extension records:

- The system generates the networked SMDR extension record for incoming ISUP IBN trunk calls.
- The system generates the networked SMDR extension record. This action occurs when the assignment of option NETWORK occurs to the associated customer group in table CUSTSMDR.

IBN Trunks with ISUP Signaling (continued)

- The system does not output the networked SMDR extension record as a separate field in the AMAB150 log. The networked calling DN appears in the station DN field of the AMAB150 log.
- A billing DN cable in table TRKGRP for the associated ISUP IBN trunk and option NETWORK in table CUSTSMDR. When this condition occurs, the system outputs the networked calling ID and not the billing DN to the AMAB150 log.

Datafilling office parameters

The IBN Trunks with ISUP Signaling feature does not affect office parameters.

Datafill sequence

The tables that require datafill to implement the IBN Trunks with ISUP Signaling feature appear in the following tables. The tables appear in the correct entry order.

Datafill requirements for IBN Trunks with ISUP Signaling

Table	Purpose of table
CLLI	Common Language Location Identifier. This table identifies the far end of each announcement, tone, trunk group, test trunk, national milliwatt test lines, and service circuit. Enter 1 to 16 alphanumeric characters. Note: The first character in field CLLI must be alphabetic.
TRKGRP	Trunk Group. This table contains information on trunk groups.
TRKSGRP	Trunk Subgroup. This table contains information on each subgroup associated with a trunk group in table TRKGRP.
ISUPDEST	CCS7 ISDN User Part Destination. This table enables you to enter data for the part of a signaling network identifier (SNID) logically associated with tables TRKGRP and TRKSGRP. Enter the portion of the SNID separate from the entries in table C7TRKMEM.
TRKMEM	Trunk Member. The data for each trunk that the trunk group and subgroup tables specify appears in this table.
C7TRKMEM	CCS7 Trunk Member. The CCS7 uses this table to relate the CIC portion of the SNID to the CLLI and trunk member number.
CUSTSMDR	Customer Group SMDR Option. The SMDR options assigned to each of the customer groups appear in this table.

IBN Trunks with ISUP Signaling (continued)

Data entries occur in the IBN Trunks with ISUP Signaling in the same manner as basic IBN trunks. Enter data in table CLLI first. Enter data in table TRKGRP with a trunk group type of IBNTO, IBNTI, or IBNT2.

After table TRKGRP, enter data in table TRKSGRP to specify an IBN trunk group as an ISUP IBN trunk group. Set the signaling data equal to C7UP.

After table TRKSGRP, enter data in table ISUPDEST to identify the route-set associated with the ISUP IBN trunk subgroup. After you enter data in table ISUPDEST, add trunks to table TRKMEM in the normal manner.

Enter data in table C7TRKMEM to associate the IBN Trunks with ISUP Signaling with a circuit identification code.

The DMS switch rejects the TRKSGRP tuple for ISUP IBN trunks that do not have correct datafill in table TRKGRP. After you enter data in table TRKSGRP, the DMS switch rejects changes to the restricted fields of the corresponding tuple in table TRKGRP. An error message appears to indicate datafill errors.

In one trunk group type, you can enter non-ISUP signaling in one trunk subgroup. When this condition occurs, you cannot enter ISUP signaling in the other trunk subgroup in the same trunk group.

Feature AL0520, SS7 Mass Trunk Conversion, provides a mechanism that converts current PTS trunks to ISUP trunks. For details, refer to *Recovery Procedures*. This feature also allows mass trunk conversion of IBN trunks to IBN Trunks with ISUP Signaling.

Datafilling table CLLI

Table CLLI contains the codes that identify the far end of each announcement, tone, or trunk group.

Datafill for the IBN Trunks with ISUP Signaling feature for table CLLI appears in the following table. The fields that apply to the IBN Trunks with

IBN Trunks with ISUP Signaling (continued)

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

Datafilling table CLLI

Field	Subfield or refinement	Entry	Description
CLLI		1 to 16	Common Language Location Identifier. This field specifies the CLLI code of the trunk group. Enter 1 to 16 alphanumeric characters. Note: The first character in field CLLI must be alphabetic.
ADNUM		number of administrative trunk group	Administrative Trunk Group Number. This field specifies the number of the administrative trunk group. Enter 0 or a value that is one less than the size of table CLLI that appears in table DATASIZE.
TRKGRSIZ		0 to 2047	Trunk Group Size. This field specifies the maximum quantity of trunk members you expect to assign in the trunk group. Enter a number from 0 to 2047.
ADMININF		specify the data to record admin info	Administrative Information. This field specifies the data that the operating company uses to record administration information.

Datafill example for table CLLI

Sample datafill for table CLLI appears in the following example.

MAP example for table CLLI

CLLI	ADNUM	TRKGRSIZ	ADMININF
LBR1ISUPIBN	181	96	OG_ISUP_IT_TRAFFIC \$

Datafilling table TRKGRP

Table TRKGRP contains some of the customer-defined data associated with each trunk group in the switching unit.

Three types of IBN trunk groups are available. These trunk groups are IBNTI, IBNTO, and IBNT2. The datafill for table TRKGRP is like these three types of trunk groups. Each trunk group must have an associated code in table CLLI.

IBN Trunks with ISUP Signaling (continued)

The IBN Trunks with ISUP Signaling feature restricts the entry of data in table TRKGRP for ISUP IBN trunk groups. These restrictions do not allow the entry of capabilities that the system does not support in IBN Trunks with ISUP Signaling. For example, because ISUP IBN trunks do not support the Dial Tone Incoming (DTI) feature, you cannot set field DTI to Y. The system does not determine an IBN trunk group to be an IBN Trunks with ISUP Signaling group until the following occurs. Data entry must occur in table TRKSGRP. The IBN Trunks with ISUP Signaling feature imposes these restrictions when you enter data in table TRKSGRP and when you change table TRKGRP.

Datafill for the IBN Trunks with ISUP Signaling feature for table TRKGRP appears in the following table. The fields that apply to the IBN Trunks with ISUP Signaling feature appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table TRKGRP

Field	Subfield or refinement	Entry	Description
GRPINFO		see subfields	Group Information. This field contains many subfields. Subfields DISCTSEL, DTI, and TES apply to IBN Trunks with ISUP Signalling.
	DISCTSEL	disconnect timing	Disconnect Timing Selector. This subfield specifies the disconnect timing for the trunk group. Enter 0 for 200 ms.
	DTI	Y or N	Dial Tone Incoming. This subfield specifies if the system must send the second dial tone to the originator of an incoming call.
	TES	Y or N	Toll Essential Service. This subfield specifies if the trunk group is toll essential.

Table TRKGRP datafill for the IBN Trunks with ISUP Signaling feature for trunk group type IBNTO appears in the following table. The fields that apply

IBN Trunks with ISUP Signaling (continued)

to the IBN Trunks with ISUP Signaling appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table TRKSGRP for IBNTO

Field	Subfield or refinement	Entry	Description
GRPINFO		see subfields	Group Information. This field contains many subfields. Subfields DISCTSEL, FDN, FDV, and FLASH apply to IBN Trunks with ISUP Signalling.
	DISCTSEL	disconnect timing	Disconnect Timing Selector. This subfield specifies the disconnect timing for the trunk group. Enter 0 for 200 ms.
	FDN	Y or N	FX Toll Denied. This subfield specifies if the system must route the toll call to toll denied treatment. The system can route the toll call to this treatment when the system receives a reversal from the far end.
	FDV	Y or N	FX Toll Diverted. This subfield specifies if the system must route the toll call to the intercept key and the lamp on the AC. The system can route a toll call to these parts when the system receives the reversal from the far end.
	FLASH	Y or N	Flash. This subfield specifies if a flash must occur.

Table TRKGRP datafill for the IBN Trunks with ISUP Signaling feature for trunk group type IBNT2 appear in the following table. The fields that apply to

IBN Trunks with ISUP Signaling (continued)

the IBN Trunks with ISUP Signaling feature appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table TRKSGRP for IBNT2 (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Description
GRPINFO		see subfields	Group Information. This field contains many subfields. Subfields DISCTSEL, DTI, TES, FDN, FDV, FLASH, DPX, PREEMPT, and MTR apply to IBN Trunks with ISUP Signaling.
	DISCTSEL	disconnect timing	Disconnect Timing Selector. This subfield specifies the disconnect timing for the trunk group. Enter 0 for 200 ms.
	DTI		Dial Tone Incoming. This subfield specifies if the system must send the second dial tone to the originator of an incoming call.
	TES		Toll Essential Service. This subfield specifies if the trunk group is toll essential.
	FDN		FX Toll Denied. This subfield specifies if the system must route the toll call to toll denied treatment. This condition occurs when the system receives a reversal from the far end.
	FDV		FX Toll Diverted. This subfield specifies if the system must route the toll call to the intercept key and the lamp on the AC. This condition occurs when the system receives the reversal from the far end.
	FLASH		Flash. This subfield specifies if a flash must occur.
	DPX		Datapath Loop Extension. This subfield specifies if the trunk group is associated with the Datapath Loop Extension (DPX) line.
Note 1: You can enter one of the above-mentioned fields with a value other than the default value that appears. In this occurrence, the system rejects the corresponding TRKSGRP tuple for tuples that contain the C7UP signaling type (field SIGDATA). Note 2: If you attempt to change the trunk group to a value other than the values from the previous description, the system rejects the change. The system outputs the following error message: TUPLE IS NOT ACCEPTABLE FOR C7UP SIGNALING.			

IBN Trunks with ISUP Signaling (continued)

Datafilling table TRKSGRP for IBNT2 (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Description
	PREEMPT		Preemption Capability. This subfield specifies the preemption capability.
	MTR		Meter Reception. This subfield specifies the meter reception. Leave this field blank.
Note 1: You can enter one of the above-mentioned fields with a value other than the default value that appears. In this occurrence, the system rejects the corresponding TRKSGRP tuple for tuples that contain the C7UP signaling type (field SIGDATA). Note 2: If you attempt to change the trunk group to a value other than the values from the previous description, the system rejects the change. The system outputs the following error message: TUPLE IS NOT ACCEPTABLE FOR C7UP SIGNALING.			

Datafill example for table TRKGRP

Sample datafill for table TRKGRP (IBNT2) appear in the following example.

MAP example for table TRKGRP

GRPKEY	GRPINFO
LBR1ISUPIBN	
IBNT2 0 EL0D NCRT MS1LBR2 0 MIDL 0 N ANSDISC 0 N N N N	
N N N 0 1 N 0 0 0 0 N N N N N N N N NATL \$	

Datafilling table TRKSGRP

Table TRKSGRP contains the additional information for each subgroup assigned to one of the trunk groups that appear in table TRKGRP.

Datafill for table TRKSGRP identifies that IBN trunk group types IBNTI, IBNTO, and IBNT2 as ISUP IBN trunk groups. To initiate this process, set field SIGDATA to C7UP. The system rejects the tuples if the data in table TRKGRP is not compatible with ISUP signaling.

Datafill for the IBN Trunks with ISUP Signaling feature for table TRKSGRP appears in the following table. The fields that apply to the IBN Trunks with

IBN Trunks with ISUP Signaling (continued)

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

Datafilling table TRKSGRP

Field	Subfield or refinement	Entry	Description
SGRPVAR		see subfields	Variable Subgroup Data. This field contains many subfields. Subfield SIGDATA applies to IBN Trunks with ISUP Signalling.
	SIGDATA	C7UP	Signaling Data. This subfield specifies the type signaling data. Enter C7UP.

Datafill example for table TRKSGRP

Sample datafill for table TRKSGRP appears in the following example.

MAP example for table TRKSGRP

SGRPKEY	CARDCODE	SGRPVAR
LBR1ISUPIBN 0	DS1SIG	
C7UP 2W N N UNEQ NONE Q764 TLRH 50 DMS28 NIL CIC		\$

Datafilling table ISUPDEST

Table ISUPDEST contains a key field, DESTKEY, and one result field, ISUPROUT. The system uses the ISUP routeset name to access table C7RTESET. The system accesses this table to obtain the network and point code information. This information specifies the portion of a signaling network identifier (SNID) logically associated with a trunk group/subgroup. The system uses the ISUP routeset name to improve the interface to this table. The system retrieves actual network and point code values at datafill time from the routeset table. The system stores these values, and the trunk group CLLIs, in table ISUPDEST. These values are transparent to the user.

Datafill for the IBN Trunks with ISUP Signaling feature for table ISUPDEST appears in the following table. The fields that apply to the IBN Trunks with

IBN Trunks with ISUP Signaling (continued)

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

Datafilling table ISUPDEST

Field	Subfield or refinement	Entry	Description
DESTKEY		see subfields	Destination Key. This field contains of subfields CLLI and SGRP.
	CLLI	see subfields	Common Language Location Identifier. This subfield specifies the code assigned in the CLLI table to the ISUP, BTUP, or MBTUP trunk group. Enter the code.
	SGRP	0 or 1	Subgroup Number. This subfield specifies the number assigned to the ISUP, BTUP, or MBTUP trunk subgroup. Enter 0 or 1.
ISUPROUT		routeset name	CCS7 ISDN User Part Routeset Name. This field specifies the routeset name. The routeset name provides the network and point code information from table C7RTESET. This name specifies the portion of the SNID logically associated with this trunk group. This routeset name must already be in table C7RTESET. Enter the routeset name.

Datafill example for table ISUPDEST

Sample datafill for table ISUPDEST appears in the following example.

MAP example for table ISUPDEST

DESTKEY	ISUPROUT
LBR1ISUPIBN 0	FASTNETS1

Datafilling table TRKMEM

Table TRKMEM contains data for each trunk the trunk group and subgroup tables specifies. Table TRKMEM does not include members of intertoll trunk groups that have common channel interoffice signaling (CCIS). Table TRKMEM does not include members of CCITT6 trunk groups in the Montreal gateway switching unit.

Datafill for the IBN Trunks with ISUP Signaling feature for table TRKMEM appears in the following table. The fields that apply to the IBN Trunks with

IBN Trunks with ISUP Signaling (continued)

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

Datafilling table TRKMEM

Field	Subfield or refinement	Entry	Description
CLLI		code	Common Language Location Identifier. This field specifies the code assigned in table CLLI for the trunk group to which the trunk belongs. Enter the CLLI.
EXTRKNM		0 to 9999	External Trunk Member. This field specifies the external trunk number assigned to the trunk. Enter a number from 0 to 9999.
SGRP		0 or 1	Subgroup Number. This field specifies subgroup number of the assigned trunk. Enter 0 or 1.
MEMVAR		see subfields	Variable Data for Members. This field contains subfield PMTYPE and associated refinements.
	PMTYPE	module type and refinement	Peripheral Module Type. This subfield specifies the peripheral module type that holds the trunk. Enter the module type and the refinement associated with the module type.

Datafill example for table TRKMEM

Sample datafill for table TRKMEM appear in the following example.

MAP example for table TRKMEM

CLLI	EXTRKNM	SGRP	MEMVAR
LBR1ISUPIBN	0	0	DTC 1 18 24 \$

Datafilling table C7TRKMEM

The CCS7 uses Table C7TRKMEM to relate the circuit identification code (CIC) portion of the SNID to the CLLI and trunk member number.

Datafill for the IBN Trunks with ISUP Signaling feature for table C7TRKMEM appears in the following table. Fields that apply to the IBN

IBN Trunks with ISUP Signaling (continued)

Trunks with ISUP Signaling feature appear in this table. For a description of the other fields, see the data schema section of this document.

Datafilling table C7TRKMEM

Field	Subfield or refinement	Entry	Description
MEMKEY		see subfields	Member Key. This field contains subfields CLLI and MEMNAME.
	CLLI	CLLI	Common Language Location Identifier. This subfield specifies the code assigned in table CLLI for the trunk group to which the trunk belongs. Enter the CLLI.
	MEMNAME	see subfields	Trunk Member Number. This subfield specifies the number of the trunk member assigned to the trunk from field EXTRKNM in table TRKMEM.
CIC		0 to 16383	CCS7 Circuit Identification Code. This field specifies the CIC of the trunk CIRCUIT. Where the end user enters a CCITT trunk, enter a number from 0 to 4095. Where the end user enters a non-CCITT trunk, enter a number from 0 to 16383.

Datafill example for table C7TRKMEM

Sample datafill for table C7TRKMEM appears in the following example.

MAP example for table C7TRKMEM

MEMKEY	CIC
S5S3T2C7 2	113 \$

Datafilling table CUSTSMR

Table CUSTSMR contains the SMDR options assigned to each of the customer groups.

Table CUSTSMR generates billing records for calls in a customer group. You can add option NETWORK to this table to control the generation of the networked SMDR extension record. If you add option NETWORK to a customer group, incoming IBN Trunks with ISUP Signaling calls also contain the networked SMDR extension record. Incoming IBN Trunks with ISUP

IBN Trunks with ISUP Signaling (end)

Signaling calls generate SMDR records. This process applies to IBN Trunks with ISUP Signaling.

Datafill for the IBN Trunks with ISUP Signaling feature for table CUSTSMDR appears in the following table. The fields that apply to the IBN Trunks with ISUP Signaling feature appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CUSTSMDR

Field	Subfield or refinement	Entry	Description
OPTIONS		NETWORK	Options. This field specifies the options that apply to the entire customer group. Enter NETWORK.

Datafill example for table CUSTSMDR

Sample datafill for table CUSTSMDR appears in the following example.

MAP example for table CUSTSMDR

CUSTNAME	BUSNSID	OPTIONS
NETWORK	1	(RAO) (ANSTIM 15) (NETWORK) \$

Tools for verifying translations

The IBN Trunks with ISUP Signaling feature does not use translation verification tools.

SERVORD

The IBN Trunks with ISUP Signaling feature does not use SERVORD.

Increase Auth Codes per Customer Group

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS18 and later versions

Requirements

To operate, Increase Auth Codes per Customer Group has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The Increase Auth Codes per Customer Group feature increases the capacity for the number of authorization codes in the customer group. This feature increases this number from the current maximum of 32 000 to 65 534.

Authorization codes are sets of digits a user dials. These digits serve the following functions:

- identify authorized users in the network and exclude the users that are not authorized.
- record authorization codes in a station message detail recording (SMDR) record for billing purposes.
- assign a class of service name to a person, not a station on incoming trunk groups.

Authorization codes can range from two to ten digits in length. The assignment of a network class of service (NCOS) occurs for each authorization code. You must make provisions for all customer groups to use authorization codes. The system must determine the number of authorization code digits and the number of codes for the customer group. Authorization codes do not need to be different for each customer group.

The available data store determines the possible limits for authorization codes. The maximum number of authorization codes is 1 000 000. Authorization codes of six digits or less cannot exceed a maximum of 65 534 codes. This limit allows 1 000 000 authorization codes in sequence.

Increase Auth Codes per Customer Group (continued)

The authorization codes length and the maximum number of authorization codes affects the data store requirements. The spread of authorization codes (random or sequential distribution) affects the data store requirements. Random distribution is the greatest spread over the range of possible codes. Authorization codes entered in sorted order determine estimates for sequential distribution.

Northern Telecom assists in the determination of the limits for the Increase Auth Codes per Customer Group feature.

Operation

The operation of this feature is the same as the operation of the Authorization Codes feature. See "Authorization Codes" in this manual for information about the operation of this feature.

Translations table flow

Increase Auth Codes per Customer Group does not affect translations table flow.

Limits

The total number of digits for each authorization code determines the limits for the Increase Auth Codes per Customer Group feature. See "Authorization Codes" in this manual for additional limits of authorization codes.

Interactions

The interactions between Increase Auth Codes per Customer Group and other functionalities appear in the following paragraphs.

The Increase Auth Codes per Customer Group feature interacts with the following:

- Authorization Codes.
- Authorization Codes Immediate Dialing.
- Authorization Codes Verification and Recording features.

See the correct feature in this manual for additional feature interactions.

The Authorization Codes must be active before the customer group can use Increase Auth Codes Per Customer Group.

Activation/deactivation by the end user

Increase Auth Codes per Customer Group does not require activation or deactivation by the end user.

Increase Auth Codes per Customer Group (continued)

Billing

Increase Auth Codes per Customer Group does not affect billing.

Station Message Detail Recording

Increase Auth Codes per Customer Group does not affect Station Message Detail Recording.

Datafilling office parameters

Increase Auth Codes per Customer Group does not affect office parameters.

Datafill sequence

Note: The datafill sequence for this feature is identical to the datafill sequence for the Authorization Codes feature. The use of the Increase Auth Codes per Customer Group feature occurs if one condition occurs. If the customer group requires an increase in the number of authorization codes for the group, use of the feature occurs. The customer group does not implement this feature before implementing the Authorization Codes feature. If a customer group implements the Authorization Codes feature, one table must change to implement the Increase Auth Codes per Customer Group feature. This table is table AUTHPART.

The tables that require datafill to implement Increase Auth Codes per Customer Group appear in the following table. Enter data in the tables in the order they appear.

Datafill requirements for Increase Auth Codes per Customer Group

Table	Purpose of table
AUTHPART	Authorization Partition. This table contains data to increase the maximum number of authorization codes that the data store can accommodate.

Datafilling table AUTHPART

Table AUTHPART (Authorization Partition) contains data to increase the maximum number of authorization codes that the data store can accommodate. Field MAXSIZE can take a value of 0 to 65 534.

Datafill for Increase Auth Codes per Customer Group for table AUTHPART appears in the following table. The fields that apply to Increase Auth Codes

Increase Auth Codes per Customer Group (end)

per Customer Group appear. See the data design section of this document for a description of the other fields.

Datafilling table AUTHPART

Field	Subfield or refinement	Entry	Explanation and action
PARTNM		1 to 16 character name	Partition Name. This field specifies the partition name for the customer group or for the CFRA lines. This field is the key to the table. There can be a maximum of 256 partition names. Enter a 1 to 16 character name.
FORMAT		IBN or CFRA	Format. This field specifies the format. Enter IBN, where the authorization code is assigned to the customer group and is usable. Enter CFRA, where the authorization code is assigned for the CFRA feature and is usable.
LENGTH		2 to 10	Length. This field specifies the number of digits in each authorization code in the partition. Enter a value from 2 to 10.
MAXSIZE		0 to 1000000	Maximum Size. This field specifies the maximum number of authorization codes that the partition can accommodate. Enter a value from 0 to 1 000 000.

Datafill example for table AUTHPART

Sample datafill for table AUTHPART appears in the following example.

MAP example for table AUTHPART

PARTNM	FORMAT	LENGTH	MAXSIZE
REGAUTH	IBN	4	10

Tools for verifying translation

Increase Auth Codes per Customer Group does not use tools for verifying translations.

SERVORD

Increase Auth Codes per Customer Group does not use SERVORD.

INWATS to Direct Inward System Access

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

Release applicability does not apply to INWATS to Direct Inward System Access.

Requirements

The INWATS to Direct Inward System Access does not have requirements.

Description

Inward Wide Area Telephone Service (INWATS) is a feature that meets the requirements of end users that receive large volumes of long-distance calls. Another name for this feature is 800 Service. This feature is a service that allows end users to dial calls that would normally require operator assistance through collect. The end user can make calls without charge to the calling party from stations in the zones that the INWATS end user contracts.

The Direct Inward System Access (DISA) feature gives selected outside callers the ability to dial from switched networks directly to a DMS-100 office. This feature also allows callers to gain access to network facilities without help from an attendant.

This DISA feature converts an INWATS directory number (DN) to a DISA DN to provide INWATS billing for DISA.

Operation

The caller dials an INWATS DISA DN to access a DMS-100 office. The system applies automatic answer to the call. The system prompts the caller for the correct authorization code and the DN that the system requires.

Note: The number of terminations on an INWATS DN depends on the virtual facility group (VFG) size.

Translations table flow

Translations table flow is not available for INWATS to Direct Inward System Access.

Limits

The following limits apply to INWATS to Direct Inward System Access:

INWATS to Direct Inward System Access (continued)

When an INWATS call originates in the IBN office, the suppression of local calling area screening must occur. This condition prevents the appearance of the terminating call as a billed local call.

Interactions

The following paragraphs describe the interactions between INWATS to Direct Inward System Access and other functionalities.

Local Automatic Message Accounting (LAMA)

The INWATS feature requires the Local Automatic Message Accounting (LAMA) package. The system must generate a LAMA record for any INWATS call that IBN terminates.

Night service

The system does not always support queuing of INWATS calls. This condition occurs when the customer group is in night service and calls are directed to a night service station or TAFAS device.

Terminating restriction codes

The system checks terminating restriction codes when the attendant extends a call to a station.

Extending INWATS calls

An attendant can extend INWATS calls to the following:

- a station in the customer group
- a POTS line
- an OUTWATS facility
- another INWATS number
- any IBN or POTS trunks

IBN night service line or attendant extended

Normal feature interaction applies if:

- the INWATS call must terminate on an IBN night service line
- the attendant extends the call

Activation/deactivation by the end user

The INWATS to Direct Inward System Access does not require activation or deactivation by the end user.

INWATS to Direct Inward System Access (continued)

Billing

The INWATS to Direct Inward System Access does not affect billing.

Station Message Detail Recording

The INWATS to Direct Inward System Access does not affect Station Message Detail Recording.

Datafilling office parameters

The INWATS to Direct Inward System Access does not affect office parameters.

Datafill sequence

The tables that require datafill to implement INWATS to Direct Inward System Access appear in the following table. The tables appear in the correct entry order.

Note: If the feature does not operate after datafill is complete, see “Defining MDC customer information”. See this section to verify that all necessary IBN tables for the customer group contain the correct data.

Datafill requirements for INWATS to Direct Inward System Access

Table	Purpose of table
AUTHPART	Authorization Partition. Table AUTHPART (Authorization Partition) defines the partitions in the authorization codes database. An example is customer groups. This table defines the properties associated with these partitions. Examples of these properties are length, format, and maximum size.
AUTHCDE	Authorization Code. Table AUTHCDE (Authorization Code) defines the authorization codes and authorization code attributes.
CUSTHEAD	Customer Group Head. Table CUSTHEAD (Customer Group Head) lists information about customer groups.
VIRTGRPS	Virtual Facility Group. Table VIRTGRPS (Virtual Facility Groups) provides a mechanism to eliminate loop-around trunks.
IBNRTE	IBN Route. Table IBNRTE (IBN Route) contains route lists that a route reference index number identifies.
DNROUTE	Directory Number Route. Table DNROUTE (Directory Number Route) defines the INWATS and DISA DNs.
DIGMAN	Digit Manipulation. Table DIGMAN (Digit Manipulation) defines the digit manipulation data for a customer group.

INWATS to Direct Inward System Access (continued)

Datafilling table AUTHPART

Datafill for INWATS to Direct Inward System Access for table AUTHPART appears in the following table. The fields that apply to INWATS to Direct Inward System Access appear. See the data schema section of this document for a description of the other fields.

Table AUTHPART (Authorization Partition) defines the partitions in the authorization codes database. An example is customer groups. This table defines the properties that associated with these partitions. Examples of these properties are length, format, and maximum size.

Datafilling table AUTHPART

Field	Subfield or refinement	Entry	Explanation and action
FORMAT		IBN	This field specifies if the authorization code is assigned to a customer group (IBN) or the CFRA feature (CFRA). Enter IBN.

Datafill example for table AUTHPART

Sample datafill for table AUTHPART appears in the following example.

MAP example for table AUTHPART

TABLE AUTHPART			
PARTNM	FORMAT	LENGTH	MAXSIZE
NTI	IBN	8	200

Datafilling table AUTHCDE

Table AUTHCDE (Authorization Code) defines the authorization codes and authorization code attributes.

Datafill for INWATS to Direct Inward System Access for table AUTHCDE appears in the following table. The fields that apply to INWATS to Direct

INWATS to Direct Inward System Access (continued)

Inward System Access appear. See the data schema section of this document for a description of other fields.

Datafilling table AUTHCDE

Field	Subfield or refinement	Entry	Explanation and action
INFO		see subfield	This field contains several subfields. Only subfield FORMAT relates to this feature.
	FORMAT	IBN	This subfield specifies if the authorization code is assigned to a customer group and is either: - not usable (EXEMPT) - usable (IBN) - assigned to the CFRA feature (CFRA) Enter IBN.

Datafill example for table AUTHCDE

Sample datafill for table AUTHCDE appears in the following example.

MAP example for table AUTHCDE

TABLE AUTHCDE									
AUTHPART	AUTHCODE						INFO		
NTI	12334						IBN	40	Y SSAC \$

Datafilling table CUSTHEAD

Datafill for INWATS to Direct Inward System Access for table CUSTHEAD appears in the following table. The fields that apply to INWATS to Direct Inward System Access appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CUSTHEAD

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		see subfield	This field contains subfield OPTION.
	OPTION	AUTH	Option. This subfield specifies a customer group option. Enter AUTH.

INWATS to Direct Inward System Access (continued)

Datafill example for table CUSTHEAD

Sample datafill for table CUSTHEAD appears in the following example.

MAP example for table CUSTHEAD

```
TABLE CUSTHEAD

CUSTNAME  CUSTXLA  DGCOLNM  IDIGCOL  OPTIONS
-----
BNRMC      BNCT      BNR1      NIL
              ( AUTH BNRMC N Y ) $
```

Datafilling table VIRTGRPS

Datafill for INWATS to Direct Inward System Access for table VIRTGRPS appears in the following table. The fields that apply to INWATS to Direct Inward System Access appear. See the data schema section of this document for a description of the other fields.

Table VIRTGRPS (Virtual Facility Groups) provides a mechanism for eliminating loop-around trunks. Loop-around trunks implement IBN Inward Wide Area Telephone Service (INWATS) and Outward Wide Area Telephone Service (OUTWATS).

Datafilling table VIRTGRPS

Field	Subfield or refinement	Entry	Explanation and action
DATA		see subfield	This field contains several subfields. Only subfield INCTYPE applies to this feature.
	INCTYPE	IBN	This subfield specifies the incoming trunk type for the VFG. Enter IBN.
OPTIONS		VFGAMA	This field specifies the options assigned to the VFG. Enter VFGAMA to specify VFG automatic message accounting (AMA).

Datafill example for table VIRTGRPS

Sample datafill for table VIRTGRPS appears in the following example.

INWATS to Direct Inward System Access (continued)

MAP example for table VIRTGRPS

TABLE VIRTGRPS										DATA OPTIONS
KEY										
INWAT1	USES	OWAT1	IBN	0131112	KDK1	0	3	17		
	N	Y	Y							
										(VFGAMA TDMTT) \$

Datafilling table IBNRTE

Table IBNRTE (IBN Route) contains route lists that a route reference index number identifies.

Datafill for Table IBNRTE for this feature appears in the following procedure. The fields that apply to this feature appear. See the data schema section of this document for details on the fields in this table.

Datafilling table IBNRTE

Field	Subfield or refinement	Entry	Explanation and action
RTELIST		see subfield	Route List. This field contains several subfields. Only subfield IBNRTESEL relates to this feature.
	IBNRTESEL	IW	IBN Route Selector. This subfield specifies the IBN route selector. Enter IW.

Datafill example for table IBNRTE

Sample datafill for table IBNRTE appears in the following example.

MAP example for table IBNRTE

TABLE IBNRTE									
RTE					RTELIST				
3					(IW 5 266 INWATS 6)				\$

INWATS to Direct Inward System Access (continued)

Datafilling table DNROUTE

Table DNROUTE (Directory Number Route) defines the INWATS and DISA DNs. The definition of these numbers appears because the numbers are not assigned to a LEN.

Datafill for INWATS to Direct Inward System Access for table DNROUTE appears in the following table. The fields that apply to INWATS to Direct Inward System Access appear. See the data schema section of this document for a description of the other fields.

Datafilling table DNROUTE

Field	Subfield or refinement	Entry	Explanation and action
DNRESULT		see subfield	Directory Number Results. This field contains subfield DNSEL.
	DNSEL	T	Directory Number Selector. This subfield specifies the DN selector. Enter T to specify that the system routes calls to a DN to one of the route lists the office tables or table IBNRTE.
If DNSEL is T, subfield TABID requires datafill.			
	TABID	IBNRTE, OFRT	Table Identification. This subfield specifies the table to which the system routes calls. Enter IBNRTE or OFRT.
DNRESULT		see subfield	Directory Number Results. This field contains subfield DNSEL.
	DNSEL	FEAT	Directory Number Selector. This subfield specifies the DN selector. Enter FEAT to specify the feature selector.
	FEATURE	DISA	Feature. This subfield specifies the feature. Enter DISA to specify Direct Inward System Access (DISA).

Datafill example for table DNROUTE

Sample datafill for table DNROUTE appears in the following example.

INWATS to Direct Inward System Access (continued)

MAP example for table DNROUTE

TABLE DNROUTE									
AREACODE	OFCCODE	STNCODE	DNRESULT						
613	226	4149	FEAT	DISA	BNRMC	1	N	N	
			N	N	NCOSOPT	0	\$		
613	226	4150	T	OFRT	15				

Datafilling table DIGMAN

Table DIGMAN (Digit Manipulation) defines the digit manipulation data for a customer group. You must enter data in table DIGMAN to retranslate the INWATS DN to a DISA DN.

For the first digit command in field DIGCOM, enter the remove (REM) digit command. In subfield REMCOUNT enter the number of digits in the INWATS DN. The number of digits can be 0 to 15.

For the second digit command in field DIGCOM, enter the include digit (INC) command. In subfield INCDIGS, enter the digits to include in the digit string. This entry must be the correct DN on which the call must terminate.

The length of the DN that the digits must include depends on how the system translates the call in table IBNXLA. The customer group and NCOS that tables DNROUTE and AUTHCDE define determine the translation. The system translates the DN in the sequence given. If this procedure does not used to translate the call, tables XLANAME and IBNXLA must define a preliminary translator.

Datafill for INWATS to Direct Inward System Access for table DIGMAN appears in the following table. The fields that apply to INWATS to Direct

INWATS to Direct Inward System Access (continued)

Inward System Access appear. See the data schema section of this document for a description of the other fields.

Datafilling table DIGMAN

Field	Subfield or refinement	Entry	Explanation and action
DMIDATA		see subfield	Digit Manipulation Data. This field contains subfield DIGCOM.
	DIGCOM	REM	Digit Manipulation Command. This subfield specifies the digit manipulation command. Enter REM to specify the remove digits command.
If the setting of DIGCOM is REM, subfield REMCOUNT requires datafill.			
	REMCOUNT	0 to 15	Remove Digits Count. This subfield specifies the number of digits to remove from the digit string. Enter a value from 0 to 15.
DMIDATA		see subfield	Digit Manipulation Data. This field contains subfield DIGCOM.
	DIGCOM	INC	Digit Manipulation Command. This subfield specifies the digit manipulation command. Enter INC to specify the include digits command.
If DIGCOM is INC, subfield INCDIGS requires datafill.			
	INCDIGS	digit in the string	Included Digits. This subfield specifies the digits to include in the digit string. Enter the digits to include.

Datafill example for table DIGMAN

Sample datafill for table DIGMAN appears in the following example.

MAP example for table DIGMAN

TABLE DIGMAN

DMIKEY

DMIDATA

1 (REM 3) (INC 133) \$

INWATS to Direct Inward System Access (end)

Tools for verifying translation

The INWATS to Direct Inward System Access does not use tools for verifying translations.

SERVORD

The INWATS to Direct Inward System Access does not use SERVORD.

MBS Message Waiting

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS15 and later versions

Requirements

To operate, MBS Message Waiting has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The MBS Message Waiting provides a message indicator on Meridian business sets (MBS). This message waiting lamp indicates to an MBS end user that a message is waiting at the message center. The end user can dial the message center to retrieve this message.

Operation

The MBS Message Waiting is assigned to a key and lamp on an MBS. When a message is at the message center, the lamp illuminates. The MBS Message Waiting lamp stays lit until the end user retrieves all messages. To retrieve the messages, the end user dials the message center directory number (MCDN) and requests the messages. The message center attendant controls the associated lamp. The message center attendant turns off the lamp when the end user retrieves all messages.

Translations table flow

A description of the MBS Message Waiting translations table appears in the following paragraphs.

Table KSETFEAT (Business Set and Data Unit Feature) lists the line features assigned to business sets and data units. Field FEATKEY, subfield KEY, identifies the specified key for the MWT feature. Subfield FEAT and field FEATURE identify MWT. Subfield CAR specifies if the system must make or

MBS Message Waiting (continued)

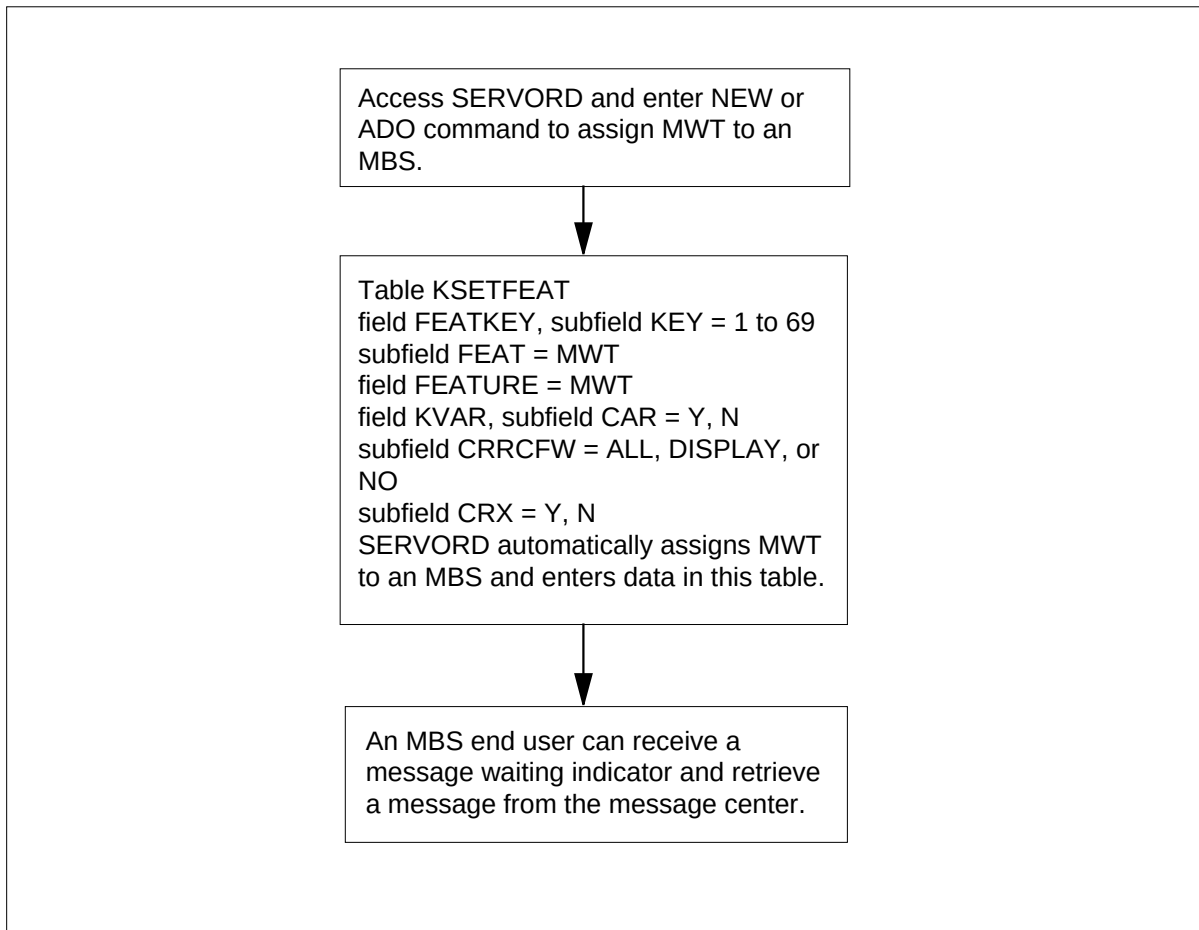
receive call requests for other lines. Subfield CRRCFW specifies the following:

- ALL allows call request retrieval to call forward.
- DISPLAY allows call forward only if the end user has a display set.
- NO prevents call request retrieval from forwarding.

If the telephone set is exempt from the placement call requests against that telephone set, subfield CRX is Y. The MBS Message Waiting assignment occurs through SERVORD.

The MBS Message Waiting translation process appears in the following flowchart. The MWT feature assignment through SERVORD and the information in table KSETFEAT appear in the flowchart and data.

Table flow for MBS Message Waiting



MBS Message Waiting (continued)

The datafill content in the flowchart appears in the following table.

Datafill example for MBS Message Waiting

Datafill table	Example data
KSETFEAT	HOST 00 0 06 15 6 MWT MWT Y ALL Y MWL

Limits

The following limits apply to MBS Message Waiting:

- Attendants cannot queue for the message center attendants.
- The attendant that serves as the message center is in subgroup 0 and is in night service. When this condition occurs, the system does not forward calls to the message center.
- A station can access Call Forward Busy or Call Forward Do Not Answer. Attendant-extended calls to a station do not follow the Call Forward Do Not Answer feature. If the station is idle, the attendant-extended call does not forward to the message center.
- Directory number hunt groups can access MBS Message Waiting.

Interactions

The following paragraphs describe the interactions between MBS Message Waiting and other functionalities.

Multiple Appearance Directory Number

The MBS Message Waiting can activate against the primary directory number (PDN). This condition applies only to stations that belong to a multiple appearance directory number (MADN) group.

Do Not Disturb.

The MBS Message Waiting does not apply to calls with Do Not Disturb activated.

Activation/deactivation by the end user

The MBS Message Waiting does not require activation or deactivation by the end user.

Billing

The MBS Message Waiting does not affect billing.

Station Message Detail Recording

The MBS Message Waiting does not affect Station Message Detail Recording.

MBS Message Waiting (continued)

Datafilling office parameters

The MBS Message Waiting does not affect office parameters.

Datafill sequence

The tables that require datafill to implement MBS Message Waiting appear in the following table. The tables appear in the correct entry order.

Datafill requirements for MBS Message Waiting

Table	Purpose of table
KSETFEAT (Note)	Business Set and Data-Unit Feature Table. This table lists the line features that are assigned to the business sets and data units (DU) in table KSETLINE. This table lists the Meridian digital telephone sets and DUs in table IVDINV.
Note: Enter data in this table through Service Order System (SERVORD). This document does not provide datafill procedure or example. See "SERVORD" for an example of how to use SERVORD to enter data in this table.	

Tools for verifying translations

The MBS Message Waiting does not use tools for verifying translations.

SERVORD

Use SERVORD to datafill table KSETFEAT.

Table KSETFEAT (Business Set and Data-Unit Feature) lists the line features assigned to the business sets and data units (DU) that appear in table KSETLINE. This table also lists the line features assigned to the Meridian digital telephone sets and DUs in table IVDINV.

The MBS Message Waiting is assigned to a line through the SERVORD.

SERVORD limits

The MBS Message Waiting does not have SERVORD limits.

MBS Message Waiting (continued)

SERVORD prompts

The SERVORD prompts for the assignment of MBS Message Waiting to a line appear in the following table.

SERVORD prompts for MBS Message Waiting

Prompt	Valid input	Explanation
OPTION	MWT	Specifies the option to establish, modify, or delete. Enter MWT.
CAR	Y, N	Specifies if the telephone can make call requests. Enter Y or N.
CRRCFW	NO, ALL, DISPLAY	Specifies call request retrieval call forwarding to enable on individual lines when the call request option activates. Enter NO, ALL, or DISPLAY.
CRX	Y, N	Specifies the call request exempt option. Enter Y or N.

Note: The system automatically enters data in table KSETFEAT when MBS Message Waiting is assigned using SERVORD.

SERVORD example for adding MBS Message Waiting

The method of addition of MBS Message Waiting to a current line through the ADO command appears in the following SERVORD example.

SERVORD example for MBS Message Waiting in prompt mode

```

S0:
>ADO
SONUMBER:   NOW 93  02  02  PM
>
DN_OR_LEN:
>00 0 06 15 1
OPTION:
>MWT
CAR:
>Y
CRRCFW:
>NO
CRX:
>N
OPTION:
>$

```

MBS Message Waiting (end)

SERVORD example for MBS Message Waiting in no-prompt mode

>ADO \$ 00 0 06 15 1 MWT Y NO N \$

MDC Variable CDAR

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: MDC00038

Release applicability

DMSCCM05 and later versions

The MDC Variable CDAR was introduced in NA005.

Requirements

All the datafill information for this functionality appears in this document. For complete installation to occur, the system can require requirement software or hardware.

Description

The MDC Variable Customer Dialed Account Recording (CDAR) allows the entry of voluntary, variable-length account codes for each feature access code basis. The MDC Variable CDAR allows the entry of specified network translator digits. The system uses these digits to prefix a dialed directory number (DN) after account code activation. Before this enhancement, the system allowed only fixed-length account codes for all customer group members.

Operating companies can continue to use fixed-length account codes the customer group defines. The entry of automatic prefix digits can occur for one of the two methods of account code activation. The operating company can use a group of fixed-length account codes and the automatic prefix digits.

Software optionality control (SOC) controls the feature. The feature cannot activate until tariff conditions are met.

See the Customer Dialed Account Recording and the Account Codes functionality descriptions in this document for a description of the fixed-length account code entry.

Operation

The MDC Variable CDAR creates two enhancements to current account code and CDAR functionalities. The first enhancement are account codes that can differ in length for each feature access code. The second enhancement are specified network translator digits. The system can use these digits to prefix

MDC Variable CDAR (continued)

the DN after account code activation. The following sections explain each enhancement.

Variable-length account codes

To enter a variable-length CDAR, the end users must dial the feature access code. The end users must dial the code for account code billing that corresponds to the length of the account code. Each feature access code entry for account code must have an entry that corresponds in table VARACCT (Variable Account Code). For example, feature access code entries can appear in table IBNXLA. This entry must correspond for variable CDAR functionality. The entry in table VARACCT contains the variable account code information and prefix digits. Multiple access codes allow for different lengths of account codes. The end user can enter each feature access code. The entry of the code allows the entry of a different length of account code for a call. Each entry can include different prefix digits.

The MDC Variable CDAR depends on table VARACCT datafill to function. The two-part key in table VARACCT is a feature translator name and an access code. The translator name and access code is the same as the entry for the following tables:

- XLANAME (Translator Names)
- CUSTHEAD (Customer Group Head)
- IBNXLA (IBN Translations)

Table CUSTHEAD must have option ACCT assigned for this feature to operate. With feature translators and access codes, enter option ACCT for each entry in table IBNXLA.

Note: If the operating company changes feature translators in table NCOS (Network Class of Service) the change must have an entry in table VARACCT to operate. The operating company can use exact flash conditions to change feature translators. If this event occurs, the change must have an entry in table VARACCT to operate. If the operating company changes feature translators in table NCOS, enter a corresponding entry in table VARACCT. The entry that corresponds must occur for the different translator name.

The operating company personnel must enter the number of digits in the account code for each entry. The number of account code digits data in table VARACCT has priority over the corresponding entry in table CUSTHEAD. If table CUSTHEAD occurs is in use, the functionality returns to fixed-length account codes.

MDC Variable CDAR (continued)

Field AMASEL of table AMAOPTS (Automatic Message Accounting Options) must be ON to activate CDAR.

The MDC Variable CDAR does not change the current functionality of option NOTIMOUT. The end user does not have to dial the octothorpe (#) key or wait for interdigit time-out after entering the account code digits. You can enter data in option ACCT in table CUSTHEAD. Enter Y in subfield NOTIMOUT if the end user wants to start routing following the entry of an account code.

Automatic prefix digits

The definition of network selectors must be in table IBNXLA with the NET selector. The definition must be present if the entry of prefix digits occurs in table VARACCT. The entry of prefix digits in table VARACCT allows the end user to enter a DN without entering a network selector. For example, translations can require the end user to dial 9 for external customer group calls. If this event occurs, the end user does not have to dial 9 to allow local calling before dialing a DN. The end user does not have to enter 9 if data entries are the same in table VARACCT.

Note: The use of prefix digits in table VARACCT does not allow or limit additional authorization for dialing stations. For example, a station with an NCOS for local calling does not gain authorization for long distance. When operating company personnel enter prefix digits for billable calls, a station with NCOS does not gain authorization for long distance calls.

If the entry of prefix digits occurs, a dialed feature access code for account code prefixes the dialed digits. A dialed feature access code is voluntary. The access code prefixes the dialed digits for translation of the end user. For example, if the entry of prefix digits occurs for the feature access code, the system prefixes all DNs. The system prefixes other dialed digits. The system prefixes the digits with the prefix digits defined through operating company datafill.

To translate the prefix digit only, end users must press the octothorpe (#) where the end users normally dial a DN. For example, if the prefix digit is a zero (0) that routes to the attendant console (AC) when manually dialed, end users must press the # key. To press the # key signifies the end of digit collection for the account code if option NOTIMOUT in table CUSTHEAD is set to N. Press the # key again to signify the end of digit collection for the DN. If the end user fails to enter a DN and presses the # key, this action allows the prefix digit (0) to prefix an empty DN. The DN routes to the AC.

MDC Variable CDAR (continued)

End users can use MDC Variable CDAR in the following three ways:

- variable-length account codes and automatic prefix digits
- variable-length account codes only
- fixed-length account codes and automatic prefix digits

Voluntary and flash activation

The two methods to activate the account code capability that MDC Variable CDAR affects follow:

Voluntary. The end user goes off-hook. The end user dials the variable-length feature access code and waits for special dial tone (SDT). The end user enters the account code that corresponds and dials the DN. The end user dials the DN with or without a network selector, depending on prefix digit datafill. The system generates a Station Message Detail Recording (SMDR) record. The record reflects required information about the call.

Note: the operating company

Flash. When active on a call, the end user flashes and receives SDT. The end user dials the variable-length feature access code and waits for SDT. The end user enters the account code that corresponds and flashes back to the call in progress. The system generates an SMDR record. The record reflects the length of the call. The end user can make a second call on the second leg. The system generates an SMDR record for this call. The second call can use voluntary account code activation and automatic prefix digits.

Translations table flow

A description of the MDC Variable CDAR translations tables appear in the following list:

- Table XLANAME stores the default data. The default data includes the permitted digilator range for each translator. Feature translators must match the same entries in table VARACCT for the variable-length account code to operate.
- Table CUSTHEAD lists the names assigned to the blocks of data in table IBNXLA. The blocks of data in this table store the data for the translation of digits. The assignment of option ACCT must occur for fixed-length account codes and automatic prefix digits. The same entry in table VARACCT for variable-length codes replaces the digits in the account code entry. The use of digits in the account code entry must occur if the fixed-length codes are desired.

MDC Variable CDAR (continued)

- Table IBNXLA stores data for the digit translation of calls from the following:
 - an IBN station
 - attendant console
 - incoming IBN trunk group
 - incoming side of a two-way IBN trunk group

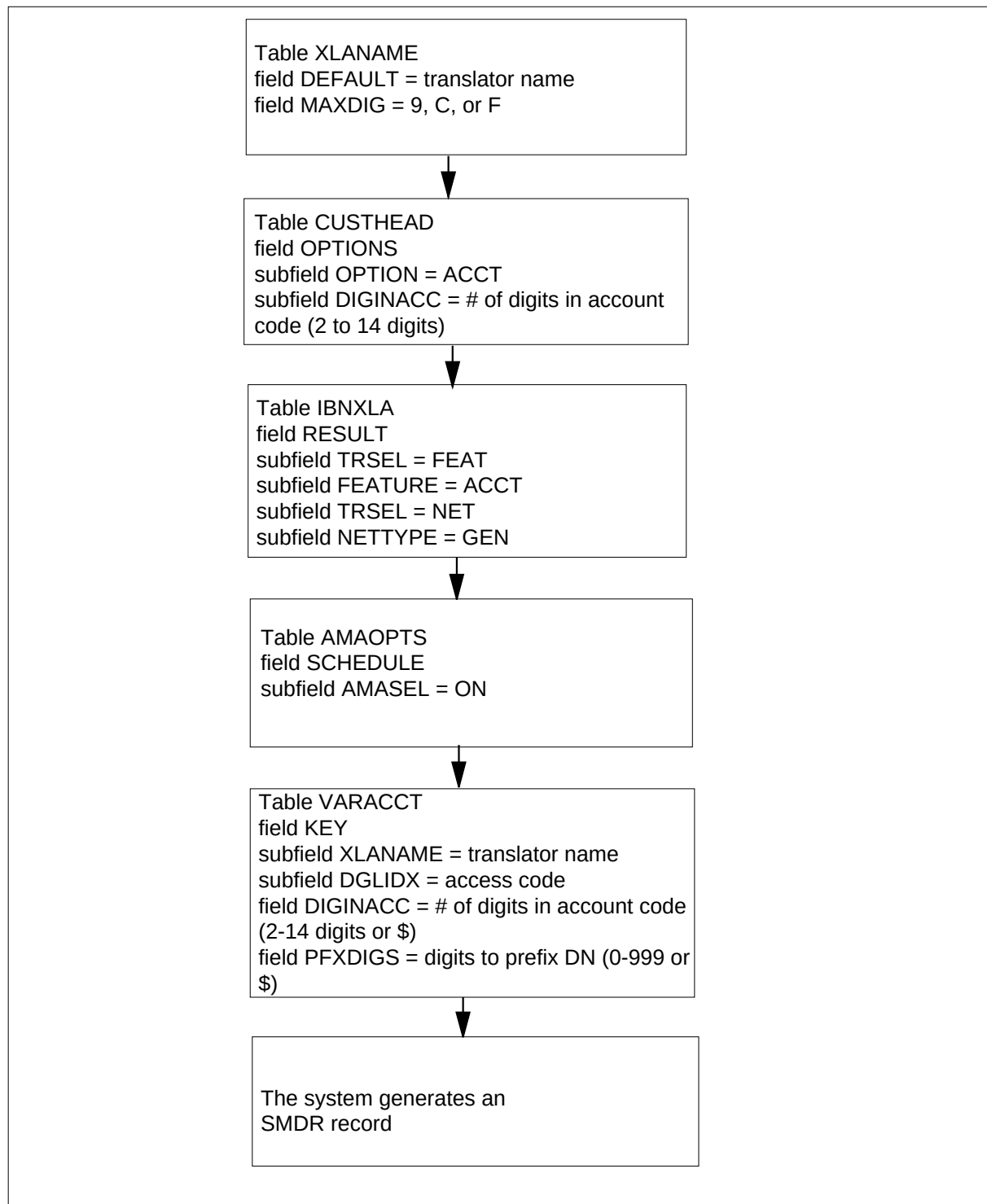
Enter the feature translators, access codes and option ACCT for each entry. Network selectors must have a definition here with the NET selector if the entry of prefix digits occurs in table VARACCT.

- Table AMAOPTS (AMA Options) controls the activation and schedules of the recording options for AMA. The default values of these options depend on the entry in field FORMAT of table CRSFMT (Call Record Stream Format). The entry in field KEY is AMA. The system enters field KEY. Field AMASEL of table AMAOPTS must be ON to activate CDAR.
- Table VARACCT reflects the desired variable-length account code entry and automatic prefix digits. Entries must be identical to corresponding feature translator entries in tables CUSTHEAD and XLANAME. If feature translators do change in table NCOS, the change must have an entry in table VARACCT. This entry must be in table VARACCT for MDC variable CDAR to operate. If correct flash conditions change, these changes must have an entry in table VARACCT for MDC Variable CDAR to operate. If the entry of prefix digits occurs in table VARACCT, the digits must have a definition in the correct tables. The definition must appear in the tables to which these digits can translate. For example, a network selector in table IBNXLA or a facility trunk translations.

The MDC Variable CDAR translation process appears in the flowchart that follows.

MDC Variable CDAR (continued)

Table flow for MDC Variable CDAR



MDC Variable CDAR (continued)

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

Datafill example for MDC Variable CDAR

Datafill table	Example data
XLANAME	DEFAULT MAXDIG BNRFEAT (9)\$
CUSTHEAD	BNR BNRXLA BNRDIG NIL (VACTRMT 0) (EXTNCOS 0)\$ (ACCT 2 N N) \$
IBNXLA	BNRFEAT 26 FEAT N Y N ACCT CXDK 8 NET N Y N 1 Y POTS N Y GEN LATTR 55 PVN VAR 4 NARS NARGRP2 \$
AMAOPTS	CDAR ON
VARACCT	BNRFEAT 26 5 9

Limits

The following limits apply to MDC Variable CDAR:

- The MDC Variable CDAR affects only voluntary and flash. This functionality does not affect Account Code Required (ACR).
- This feature allows voluntary, variable-length account codes through the use of a feature access code only. Other methods an account-code entry default to the fixed-length value set for customer group of the subscriber.
- Account codes can be 2 to 14 digits in length for each switch.
- The use of prefix digits through table VARACCT does not allow or limit additional authorization for dialing stations. For example, a station with an NCOS for local calling does not gain authorization for long distance. The station does not gain authorization if the operating company personnel adds the prefix digits for billable calls.
- Entries in table VARACCT must be identical to feature translators that correspond to entries in tables CUSTHEAD and XLANAME. Feature translators can change in table NCOS. The changes must have an entry in table VARACCT for MDC Variable CDAR to operate. Correct flash conditions in table NCOS can change feature translators. These changes must have an entry in table VARACCT for MDC Variable CDAR to operate.
- Entries in table VARACCT do not replace customer group entries in tables CUSTHEAD, IBNXLA, or XLANAME for ACCT. Earlier translations datafill for account codes continue to be a requirement for feature functionality.

MDC Variable CDAR (continued)

- Prefix digits and entries in table VARACCT do not replace customer group network selectors in tables IBNXLA or CUSTHEAD. This functionality uses network selectors that have a definition in table IBNXLA. Translations do not translate prefix digits with a DN if a corresponding network selector does not already have a definition.
- This feature uses MDC translations to find the key that contains variable-length account code information. This feature does not support interactions between translations other than basic MDC translations. For example, ISDN-specific translations.
- The entry of specified prefix digits for this feature allows digits to prefix a dialed number. The digits prefix the number that the system routes to a facility (station or trunk). Do not use the prefix digit of this feature for other feature activation.

Interactions

The following paragraphs describe the interactions between MDC Variable CDAR and other functionalities.

Account Code Required

The MDC Variable CDAR does not affect the operation of Account Code Required (ACR). The ACR is a customer group option that uses parameters from table CUSTHEAD. If ACR has data entries for a customer group, use the customer group parameters for the account code parameters.

Authorization Codes

The MDC Variable CDAR does not affect Authorization Codes (AUTH) functionality. Option AUTH uses a group of account codes and AUTH with datafill from table CUSTHEAD. Option AUTH does not use account codes and AUTH with datafill from table VARACCT.

Activation/deactivation by the end user

The end user can activate the account code capability using MDC Variable CDAR in two ways appears: voluntary and flash. The two methods of activation appear as follows.

Activating voluntary account code with MDC Variable CDAR

Subscriber off-hook

- 1** Dial a variable-length feature access code for account code that the operating company enters.
Response: The DMS switch prompts with the special dial tone (SDT).
- 2** Dial the variable-length account code that corresponds.
- 3** Dial the DN. If you enter prefix digits, do not dial the network selector.

MDC Variable CDAR (continued)

Response: The system generates an SMDR record.

Activating flash account code with MDC Variable CDAR
Subscriber active on a call

- 1 Flash the switchhook.

Response: The DMS switch prompts with the SDT.

- 2 Dial the variable-length feature access code for the account code that the operating company enters.

Response: The DMS switch prompts with the SDT.

- 3 Dial the variable-length account code that corresponds.

- 4 Flash the switchhook again.

Response: Return to the call in progress. The system generates an SMDR record. You can make a second call after ACCT activation. To make a second call, use the voluntary account code activation with prefix digits if the process is a requirement. The system generates an SMDR record for this call.

Billing

The MDC Variable CDAR does not affect billing.

Station Message Detail Recording

The MDC Variable CDAR does not affect SMDR.

Datafilling office parameters

The MDC Variable CDAR does not affect office parameters.

Datafill sequence

The tables that require datafill to implement MDC Variable CDAR appear in the following table. The tables appear in the correct entry order.

Datafill requirements for MDC Variable CDAR (Sheet 1 of 2)

Table	Purpose of table
XLANAME	Translator Names. This table stores the default data. The data includes the acceptable digilator range for each translator. Feature translators must match the same entries in table VARACCT for variable-length account codes to operate.
CUSTHEAD	Customer Group Head. The names assigned to the blocks of data in table IBNXLA appear in this table. The blocks of data that store the data for the translation of digits appear in this table. The assignment of option ACCT must occur. An entry in table VARACCT for variable-length codes replaces the digits in the account code entry. You can use the digits in the account code entry for fixed-length codes.

MDC Variable CDAR (continued)**Datafill requirements for MDC Variable CDAR (Sheet 2 of 2)**

Table	Purpose of table
IBNXLA	IBN Translation. This table stores the data for the digit translation of calls from the following areas: • an IBN station • an attendant console, • an incoming IBN trunk group • an incoming side of a two-way IBN trunk group Enter data in the feature translator and access codes. Enter data in option ACCT for each entry. The definition for network selectors must appear with the NET selector if you enter prefix digits in table VARACCT.
AMOPTS	AMA Options. You can use this table to control the activation and schedule of the recording options for AMA. Field AMASEL must be ON to activate CDAR.
VARACCT	Variable Account Code. This table reflects the desired variable-length account code entry and automatic prefix digits. Entries must match feature translator entries that correspond in tables CUSTHEAD and XLANAME. Feature translators can change in table NCOS or through definable flash conditions. If these changes occur, you must have an entry in table VARACCT for MDC Variable CDAR to operate. If exact flash conditions can change feature translators. If these changes occur, you must have an entry in table VARACCT for MDC Variable CDAR to operate. If you enter prefix digits here, a network selector must have a definition in table IBNXLA through the NET selector.

Datafilling table XLANAME

Datafill for MDC Variable CDAR for table XLANAME appears in the following table. The fields that apply to MDC Variable CDAR appear in this

MDC Variable CDAR (continued)

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

Datafilling table XLANAME (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
XLANAME		alphanumeric (1 to 8 characters)	Translator name. Enter the name that you assign to the customer, feature, or preliminary translator.
DEFAULT		see subfield TRSEL in table IBNXLA	Default data. This field is a vector that contains translation selector subfield TRSEL and refinements that depend on this selector. The selector is identical to field RESULT in table IBNXLA. See table IBNXLA in the data schema section of this document for a full description of field RESULT. This section defines the refinements of the field. Note: A large number of TRSEL selector values and corresponding refinements are present. The large amount of selectors and refinements prevent a copy of the RESULT refinement descriptions to occur here.

MDC Variable CDAR (continued)**Datafilling table XLANAME (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
CONTMARK		+ or \$	Continuation mark. Enter + if additional information for this tuple is contained in the next record. If additional information for this tuple is not in the next record, enter \$ to indicate the end of the tuple.
MAXDIG		9, C, or F	Maximum digit range. This field indicates the range of acceptable values for the digilator part of the table IBNXLA key of the specified translator. Enter 9 to specify range of 0 to 9. Use this value for North America. Enter C to specify range of 0 to 9, A, B, and C. Use this value for Australia. Enter F to specify range of 0 to 9, A, B, C, D, E, and F. Use this value for Australia. Entries other than 9, C, or F are not correct. When data entries occur in field MAXDIG for an exact tuple, the MAXDIG value can change. The value can change if you delete the complete tuple and enter a new MAXDIG value again. The default MAXDIG value is 9.

Datafill example for table XLANAME

Sample datafill for table XLANAME appear in this example.

MAP example for table XLANAME

XLANAME	
DEFAULT	
MAXDIG	

BNRFEAT	(9) \$

Datafilling table CUSTHEAD

Datafill for MDC Variable CDAR for table CUSTHEAD appears in the following table. The fields that apply to MDC Variable CDAR appear in this

MDC Variable CDAR (continued)

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

Datafilling table CUSTHEAD

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		alphanumeric (1 to 16 characters)	Customer group name. Enter the name that the system assigns to the customer group.
CUSTXLA		alphanumeric (1 to 8 characters)	Customer translator. Enter the name assigned to the block of data (customer translator) in table IBNXLA. The name specifies the following data: - the translation of digits from an IBN station - attendant console - incoming IBN trunk group - incoming side of a two-way IBN trunk group The definition of the translator name appears in table XLANAME.
OPTIONS		see subfield	Options. This field contains subfield OPTION.
	OPTION	ACCT	Option. Enter ACCT, and datafill refinements DIGINACC and NOTIMOUT.
	DIGINACC	2 to 14	Digits in account code. Enter the number of digits in the account code, a value from 2-14. Note: Field DIGINACC in table VARACCT is more important than this entry.
	NOTIMOUT	Y or N	Time-out. Enter Y if you do not require an octothorpe (#) or interdigit time-out for routing to begin following the entry of an account code. If the entry of N occurs, the call does not route until the entry of an interdigit time-out expires or an octothorpe (#) occurs.
	ACCTVAL	N	Account code validation. The only correct entry for the DMS-100 switch is N.

Datafill example for table CUSTHEAD

Sample datafill for table CUSTHEAD appears in the following example.

MDC Variable CDAR (continued)**MAP example for table CUSTHEAD**

CUSTNAME	CUSTXLA	DGCOLNM	IDIGCOL	OPTIONS
BNR	BNRXLA	BNRDIG	NIL	(VACTRMT 0) (EXTNCOS 0)\$ (ACCT 2 N N)\$

Datafilling table IBNXLA

Datafill for MDC Variable CDAR for table IBNXLA where subfield TRSEL = FEAT appears in the following table. The fields that apply to MDC Variable CDAR appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table IBNXLA with subfield TRSEL = FEAT (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
KEY		see subfields	Key. This field contains subfields XLANAME and DGLIDX.
	XLANAME	1-8 character name	Translator name. This subfield specifies the name that the system assigns to the translator. Enter the 1- to 8-character name.
	DGLIDX	1-18 numeric	Digilator index. This subfield specifies the access code. Enter the 1- to 18-digit number assigned as the access code.
RESULT		see subfields	Result. This field contains subfields TRSEL, ACR, SMDR, and FEATURE.
	TRSEL	FEAT	Translations selector. This subfield specifies the translations selector to use. Enter FEAT.
	ACR	Y or N	Account code entry. This subfield specifies if an account code is a requirement for all calls to the specified feature access code. Enter Y or N.

MDC Variable CDAR (continued)

Datafilling table IBNXLA with subfield TRSEL = FEAT (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	SMDR	Y or N	Station Message Detail Recording. This subfield specifies if SMDR is a requirement. Enter Y if the system records all calls from a customer group station. Enter Y if the system records all calls from an attendant console to any station in the block of station numbers. Enter N if a recording is not a requirement. Note: If field SMDR is Y, only the feature that originates a call is SMDR recorded. For features that do not originate calls, this field does not affect this feature. The system does not produce an SMDR record. For dump and restore purposes, enter an N after the SMDR field. Enter N if subfield TRSEL has data entries NET, ROUTE, TTTR, AMBI, EXTN, CUTTD, or FEAT. The SMDR fields (SMDR and SMDRB [TRKSEL = NET]) can be set to Y if the switch has option SMDR_OFFICE set to Y in table OFCOPT (Office Option). The SMDR bills each leg of the call. Turn the option on in IBN translations to generate SMDR billing. Turning on the option for one leg of the call does not carry over to another leg of the call. For the system to use virtual facility groups (VFG) to route, the SMDR must be on. The SMDR must be on for the leg of the call that requires billing. The system must route through IBN translations. For calls that originate from POTS VFGs, you cannot turn on SMDR or SMDRB.
	FEATURE	ACCT	Feature. This subfield specifies the feature assigned to a line. Enter ACCT.

Datafill example for table IBNXLA

Sample datafill for table IBNXLA appears in the following example.

MDC Variable CDAR (continued)**MAP example for table IBNXLA with subfield TRSEL = FEAT**

KEY		RESULT
BNRFEAT	26	FEAT N N N ACCT

Datafill for MDC Variable CDAR for table IBNXLA where subfield TRSEL = NET appears in the following table. The fields that apply to MDC Variable CDAR appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table IBNXLA with subfield TRSEL = NET (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
KEY		see subfields	Key. This field contains subfields XLANAME and DGLIDX.
	XLANAME	1-8 character name	Translator name. This subfield specifies the name that the system assigns to the translator. Enter the 1- to 8-character name.
	DGLIDX	1-18 numeric	Digilator index. This subfield specifies the access code. Enter the 1- to 18-digit number assigned as the access code.
RESULT		see subfields	Result. This field contains subfields TRSEL, ACR, SMDR, NO_ACCODE_DIGITS, SECOND_DIAL_TONE, DGCOLNM, CRL, INTRAGRP, NETTYPE, and OPTION.
	TRSEL	NET	Translations selector. This subfield specifies the translations selector to use. Enter NET.
	ACR	Y or N	Account code entry. This subfield specifies if all calls to the specified feature access code require an account code. Enter Y if an account code entry is a requirement if the user dials the general network access code. Field DGLIDX specifies the access code. Enter N if an account code entry is not a requirement.

MDC Variable CDAR (continued)

Datafilling table IBNXLA with subfield TRSEL = NET (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	SMDR	Y or N	Station Message Detail Recording. This subfield specifies if SMDR is a requirement. Enter Y if the system records all calls from a customer group station or attendant console. The system must record these calls to any station in the block of station numbers. Enter N if a recording is not a requirement. Note: If field SMDR is Y, only the feature that originates a call is SMDR recorded. For features that do not originate calls, this field does not have an effect. The system does not produce an SMDR record is not produced.
	NO_OF_ACCCODE _DIGITS	0 to 7	Number of access code digits. Enter the number of digits in the general network access code.
	SECOND_DIAL_ TONE	Y or N	Second dial tone. Enter Y if second dial tone is a requirement. Enter N if the dial tone is not a requirement.
	DGCOLNM	1 to 8 alphanumeric characters	Digit collection name. Enter the name assigned to the block of data in table DIGCOL for digit collection for IBN lines.
	CRL	Y or N	Code restriction level. Enter Y if code restriction levels apply. Enter N if code restrictions do not apply.
	INTRAGRP	Y or N	Intragroup. Enter Y if the call is for the same customer group. Enter N if the call is not in the same group.
	NETTYPE	GEN	Network type. Enter the network type GEN.

Datafill example for table IBNXLA

Sample datafill for table IBNXLA appears in the following example.

MDC Variable CDAR (continued)**MAP example for table IBNXLA with subfield TRSEL = NET**

KEY	RESULT

CXDK	8
	NET N Y N 1 Y POTS N Y GEN LATTR 55 \$

Datafilling table AMAOPTS

Datafill for MDC Variable CDAR for table AMAOPTS appears in the following table. The fields that apply to MDC Variable CDAR appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table AMAOPTS

Field	Subfield or refinement	Entry	Explanation and action
OPTION		see refinement	Option. This field contains refinement AMAOPT.
	AMAOPT	alphanumeric	AMA option. This refinement defines the options. The CDAR controls the recording of client-dialed account codes. Enter CDAR.
SCHEDULE		see refinement	Schedule. This field contains refinement AMASEL.
	AMASEL	ON, OFF, DEFAULT, PERIODIC, TIMED	AMA selector. This refinement determines how to activate the option. Enter ON to activate the option immediately.

Datafill example for table AMAOPTS

Sample datafill for table AMAOPTS appears in this example.

MDC Variable CDAR (continued)

MAP example for table AMAOPTS

OPTION	SCHEDULE

CDAR	ON

Datafilling table VARACCT

Datafill for MDC Variable CDAR for table VARACCT appears in the following example. The fields that apply to MDC Variable CDAR appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table VARACCT (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
KEY		see subfields	Key. This field is the two-part key to the table. This field contains subfields XLANAME and DGLIDX.
	XLANAME	1-8 alphanumeric character name	Translator name. This subfield specifies the name that the system assigns to the feature translator in tables XLANAME and IBNXLA. Enter the same 1- to 8-character name that translates the account code feature.
	DGLIDX	1-18 numeric	Digilator index. This subfield specifies the access code. Enter the digits assigned as the access code in table IBNXLA.

MDC Variable CDAR (end)

Datafilling table VARACCT (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
DIGINACC		\$, 2-14	Digits in account code. This field specifies the number of account code digits the subscriber must dial. Enter a value from 2-14. An entry of dollar sign (\$) indicates that the functionality must change back to the customer group-defined parameters in table CUSTHEAD. Note: This value takes precedence over the value the customer defines in table CUSTHEAD.
PFXDIGS		\$, 0-999	Prefix digits. This field specifies the number of digits that the system prefixes to the dialed DN's in the account code activation. Enter digits from 0-999. This field must correspond to the network selector entry in table IBNXL. An entry of dollar sign (\$) indicates that no prefix digits are to prefix a dialed DN.

Datafill example for table VARACCT

Sample datafill for table VARACCT appears in the following example.

MAP example for table VARACCT

KEY	DIGINACC	PFXDIGS
BNRFEAT 26	5	9

Tools for verifying translations

The MDC Variable CDAR does not use tools for verifying translations.

SERVORD

The MDC Variable CDAR does not use SERVORD.

Meet-Me Conference Feature Expansion

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: not applicable

Release applicability

BCS11 and up

Prerequisites

To operate, Meet-Me Conference Feature Expansion has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

-Me Conference Feature Expansion permits up to 30 conferees to participate in a meet-me conference. This feature extends the maximum number of conferees from 6 to 30. To allow for this extension, an additional six conference bridges are required.

A conference type must be specified to control the conference. The type of meet-me conference is determined by the feature packages present in the switch and datafill. The Meet-Me Conference Feature Expansion feature is available when the SUPERCNF option in table CUSTHEAD is datafilled. All conference types except standard (STD) are used by the Executive Conference feature, which allows up to 150 participants.

Refer to the "Executive Conference" feature description in the MDC translations section of this document for information on non-standard conference types. In a STD conference type, any conferee can lock or unlock the conference. Since a flash is needed, a POTS line is usually disconnected, and an MDC line from a different group receives 5-s reorder tone.

Operating companies assign the Meet-Me Conference feature to customer groups through table control. There is no predetermined order or limit to the number of customer groups that can be assigned Meet-Me Conference. All 4096 customer groups can be assigned the Meet-Me Conference functionality. Thus, stations from different customer groups can call a Meet-Me directory number and hold a conference with all other stations.

Meet-Me Conference Feature Expansion (continued)

An attendant at an attendant console can call into a meet-me conference or transfer calls to a meet-me conference. The attendant can join a meet-me conference and also transfer calls to a meet-me conference.

For example, a person needs to join a meet-me conference through an attendant. The person would call the attendant and would therefore be connected to the SRC side of the console. From the DEST of the console dial, the attendant would then dial the meet-me number and release the call. The line connects to the meet-me conference.

The person joining the meet-me conference joins either as a conferee or as a controller. The person joining the meet-me conference has all the privileges and restrictions as a party joining the meet-me conference directly.

Operation

At the specified time, potential conference members dial the conference bridge DN. The conference begins after the first two callers reach the conference bridge. When a new conference member is added, all conferees (excluding the new conferee) receive a confirmation tone to indicate that a new conference member has been added. This tone allows any conferee to ensure that only the desired parties are involved in the conference call and to maintain a list of participants.

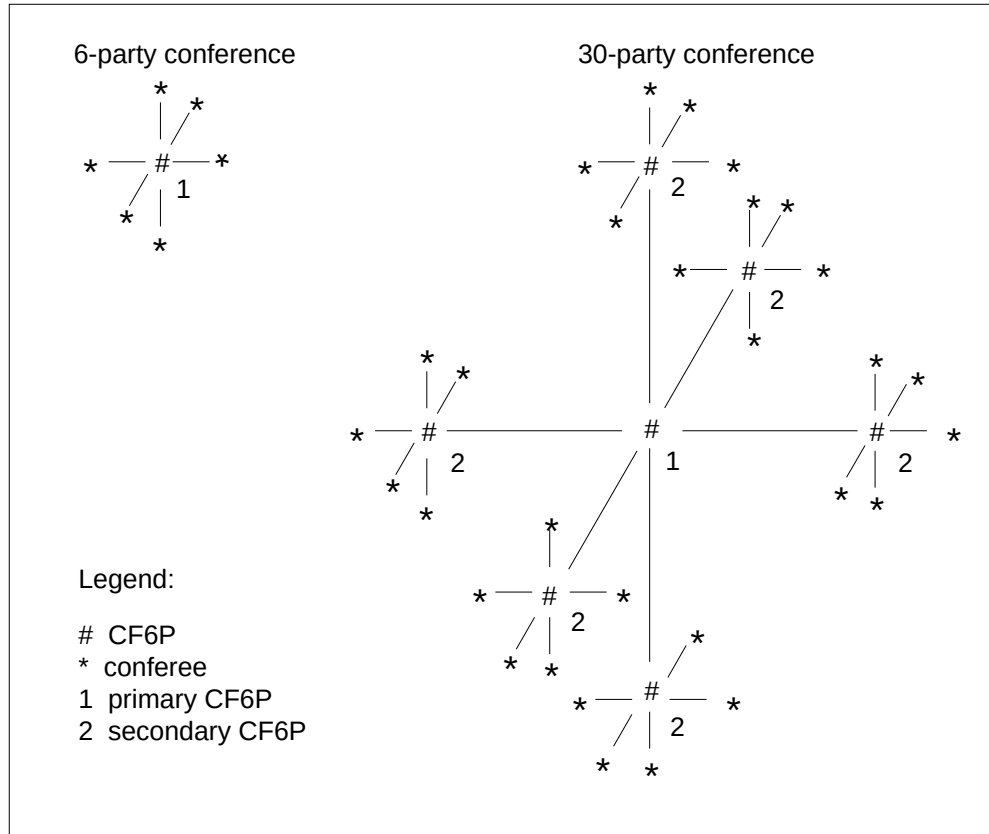
A meet-me conference is built using six-port conference circuits. To allow for seven or more parties, a meet-me conference requires more than one conference bridge. The first bridge allocated to a conference is the primary bridge. Once more than six conferees have been connected to the conference, a conferee is transferred from the primary bridge to the new bridge which is connected to the primary bridge by the port used by the transferred conferee. This bridge, connecting to the primary bridge, is referred to as a secondary bridge.

If no port is available from the conference configuration, the system checks to see if there is any port on the primary bridge not connected to a secondary bridge. If so, a request for a 6-port conference bridge is made. If allocated, the system removes one of the conferees from the primary bridge, interconnects the port with a port on the new bridge and adds the removed conferee and the new conferee onto the new bridge. This algorithm is repeated each time a secondary bridge is filled, until six secondary bridges are connected to the primary bridge. This creates a conference size of 30 conferees.

The following figure shows the configuration of a six-party conference and a 30-party conference.

Meet-Me Conference Feature Expansion (continued)

Six-party and thirty-party conference configuration



Other calling parties are blocked from intruding on the conference call whenever one of the conference members flashes the hookswitch for the first time. Any party who dials into the locked conference receives busy tone, and all conference members receive a locking confirmation tone.

As conference members disconnect, a confirmation tone alerts all conferees of the change in the number of participants.

Trunks that are not able to return disconnect supervision are excluded.

Note: Trunks that are not able to return disconnect supervision are excluded

If all bridge ports for the conference are busy, a calling party dialing the conference DN receives busy treatment. A calling party not eligible to join the conference also receives busy treatment. If no bridge is available, the calling party receives reorder treatment.

Meet-Me Conference Feature Expansion (continued)

For each MDC customer group, up to 16 DNs may be assigned for meet-me conferences. Each DN may have a conference active simultaneously, assuming that a sufficient number of six-port conference circuits have been provisioned for the office.

Translations table flow

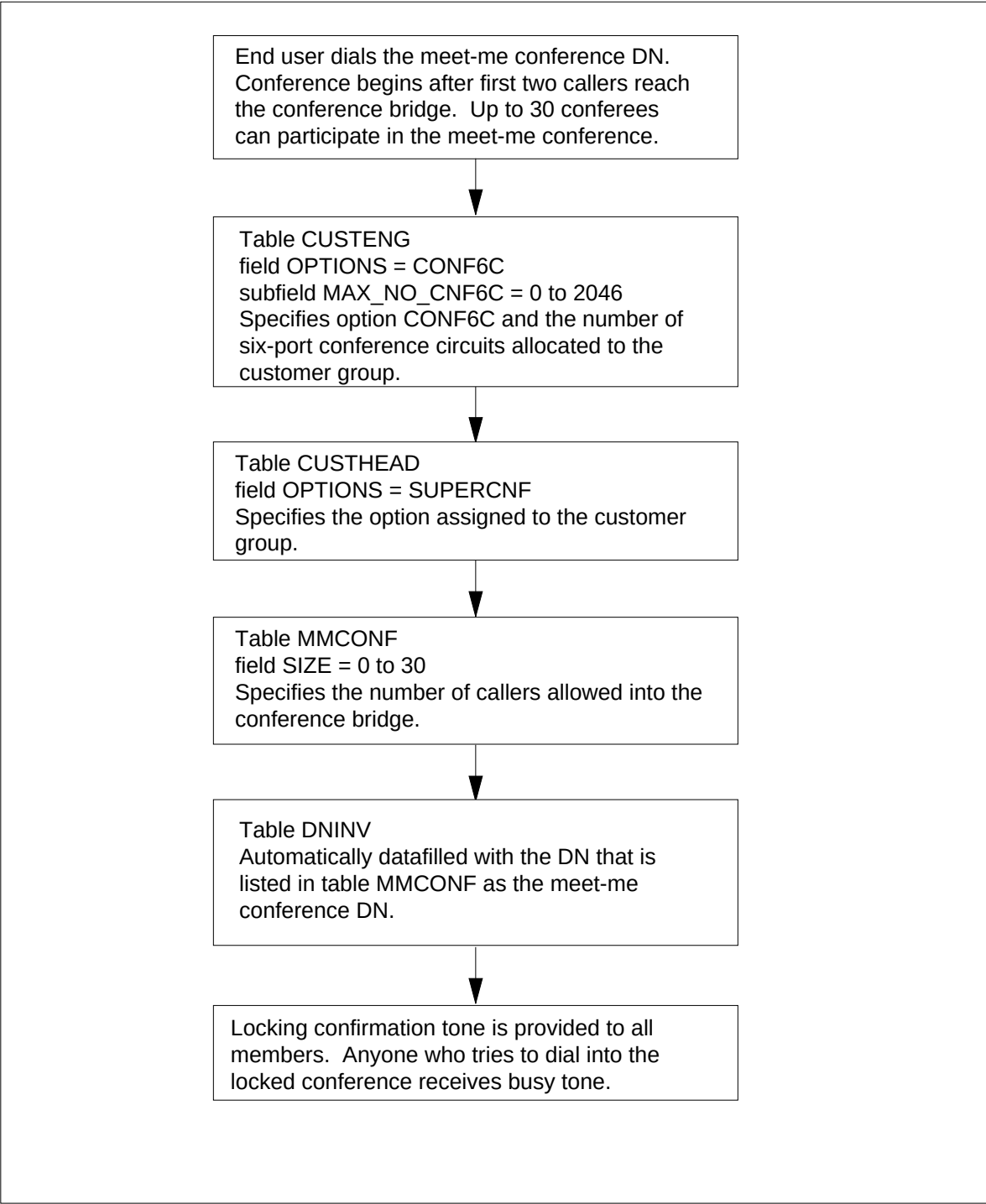
The Meet-Me Conference Feature Expansion translations tables are described in the following list:

- Table CUSTENG (Customer Group Engineering) allocates six-port conference circuits to the customer group.
- Table CUSTHEAD (Customer Group Head) sets up the necessary customer group parameters and options for Meet-Me Conference Feature Expansion.
- Table MMCONF (IBN Meet-Me Conference) must be datafilled to define a meet-me conference DN and to specify the types of stations that are allowed to dial the meet-me conference DN.
- Table DNINV (Directory Number Inventory) stores the DN that is listed in table MMCONF as the meet me conference DN. This data is automatically produced by the datafill table MMCONF table control when the DN is added to table MMCONF.

The Meet-Me Conference Feature Expansion translation process is shown in the flowchart that follows. The flowchart and data show how Meet-Me Conference is assigned to an MDC line.

Meet-Me Conference Feature Expansion (continued)

Table flow for Meet-Me Conference Feature Expansion



Meet-Me Conference Feature Expansion (continued)

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

Datafill example for Meet-Me Conference Feature Expansion

Datafill table	Example data
CUSTENG	MDCGRP1 255 32 Y N PUBLIC BNR 2227 (CONF6C 4) \$
CUSTHEAD	MDCGRP1 MDC BNR NIL (SUPERCNF) \$
MMCONF	MDCGRP1 1 919 555 1212 1 Y Y 30 STD
DNINV	919 555 1212 FEAT MEETME MDCGRP1 1

Limitations and restrictions

The following limitations and restrictions apply to Meet-Me Conference Feature Expansion:

- When a conference is in a locked state, a hookswitch flash by any conferee represents an attendant recall, similar to other conference calls. An attendant can join a meet-me conference.
- For each MDC customer group, up to 16 DNs can be assigned for meet-me conferences. Each DN can have a conference active simultaneously, assuming that a sufficient number of six-port conference circuits have been provisioned for the office.
- Once a bridge is connected to a primary bridge, it is not allowed to connect to another bridge. The maximum number of bridges allowed for Meet-Me Conference Feature Expansion is seven (one primary bridge and six secondary bridges). The maximum number of conferees is 30.
- If the first conferee is from a trunk, the trunk type must be one that returns disconnect supervision. If a trunk type does not return disconnect supervision (such as a 5X25 loop), the caller receives reorder treatment.

Interactions

The following paragraphs describe the interactions between Meet-Me Conference Feature Expansion and other functionalities.

Attendant Camp-On

Attendant Camp-On is disabled when Meet-Me Conference Feature Expansion is activated.

Busy Verification

Busy Verification (of lines and trunks connected to the conference bridge) is disabled when Meet-Me Conference Feature Expansion is activated.

Meet-Me Conference Feature Expansion (continued)

Call Transfer

Call Transfer (CXR) is disabled when Meet-Me Conference Feature Expansion is activated.

Call Waiting

Call Waiting (CWT) is disabled when Meet-Me Conference Feature Expansion is activated. (MBS Call Waiting, however, is not disabled if the conferee is a member of the Meet-Me Conference.)

Three-Way Conference/Transfer

Three-Way Conference/Transfer is disabled when Meet-Me Conference Feature Expansion is activated.

Activation/deactivation by the end user

The following events occur during initiation of Meet-Me Conference Feature Expansion.

Activation/deactivation of Meet-Me Conference Feature Expansion by the end user

At your telephone:

1. The first party dials the meet-me conference DN.
2. If a bridge is available, the first party hears audible ring tone until a second party dials into the conference.
3. Subsequent parties (up to the datafilled limit) are allowed to join the conference. Conferees receive a confirmation tone when a new conferee has been added.
4. One of the conference members flashes the hookswitch to lock the conference call.
5. Conferees disconnect in any order to end the conference.

Billing

-Me Conference Feature Expansion does not affect billing.

Station Message Detail Recording

-Me Conference Feature Expansion does not affect Station Message Detail Recording.

Datafilling office parameters

-Me Conference Feature Expansion does not affect office parameters.

Meet-Me Conference Feature Expansion (continued)

Datafill sequence

The following table lists the tables that require datafill to implement Meet-Me Conference Feature Expansion. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Meet-Me Conference Feature Expansion

Table	Purpose of table
CUSTENG	Customer Group Engineering. This table lists the values for the engineering parameters and options for each of the customer groups.
CUSTHEAD	Customer Group Head table. This table lists the names assigned to the blocks of data in table IBNXLA that store the data for the translation of digits.
MMCONF	IBN Meet-Me Conference table. This table is required for a DMS with the IBN meet-me conference feature.
DNINV	Directory Number Inventory. This table contains the data for all assigned and unassigned directory numbers.
Note: Table DNINV is automatically datafilled when table MMCONF is datafilled; therefore, no datafill procedure is provided.	

Datafilling table CUSTENG

Table CUSTENG (Customer Group Engineering) allocates six-port conference circuits to the customer group. Table CUSTENG must be datafilled to establish the customer group options required for Meet-Me Conference Feature Expansion.

The following table shows the datafill specific to Meet-Me Conference Feature Expansion for table CUSTENG. Only those fields that apply directly to -Me

Meet-Me Conference Feature Expansion (continued)

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

Datafilling table CUSTENG

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		CNF6C	Options. This field specifies the options and associated subfields assigned to the customer group. To specify the number of six-port conference circuits, enter CNF6C and datafill refinement MAX_NO_CNF6C.
	MAX_NO_CNF6C	0 to 2047	Maximum six-port conference Circuits. This subfield specifies the number of six-port conference circuits allocated to the customer group. Enter a value from 0 to 2046.

Datafill example for table CUSTENG

The following example shows sample datafill for table CUSTENG.

MAP display example for table CUSTENG

TABLE: CUSTENG						
CUSTNAME	NONCOS	NONIBNTMT	CONSOLES	DOMAIN	GROUPID	OPTIONS
MDCGRP1	255	32	Y	PUBLIC	BNR 2227	
				(CONF6C	4)	\$

Datafilling table CUSTHEAD

Table CUSTHEAD (Customer Group Head) sets up the necessary customer group parameters and options for Meet-Me Conference Feature Expansion. Option SUPERCNF extends the maximum number of conferees on an attendant setup or meet-me conference call from six to ten or more.

The following table shows the datafill specific to Meet-Me Conference Feature Expansion for table CUSTHEAD. Only those fields that apply directly to -Me

Meet-Me Conference Feature Expansion (continued)

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

Datafilling table CUSTHEAD

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		SUPERCNF	Options. This field specifies the options and associated subfields assigned to the customer group. Enter SUPERCNF.

Datafill example for table CUSTHEAD

The following example shows sample datafill for table CUSTHEAD.

MAP display example for table CUSTHEAD

TABLE: CUSTHEAD				
CUSTNAME	CUSTXLA	DGCOLNM	IDIGCOL	OPTIONS
MDCGRP1	MDC	BNR	NIL	(SUPERCNF)\$

Datafilling table MMCONF

Table MMCONF (IBN Meet-Me Conference) must be datafilled to define a meet-me conference DN and to specify the types of stations that are allowed to dial the meet-me conference DN.

Table DNINV, which assigns Meet-Me Conference Feature Expansion to a DN, is automatically datafilled by table MMCONF when the DN is added to table MMCONF.

The following table shows the datafill specific to Meet-Me Conference Feature Expansion for table MMCONF. Only those fields that apply directly to -Me

Meet-Me Conference Feature Expansion (continued)

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

Datafilling table MMCONF (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LKEY		see subfields	Line key. This field consists of subfields CUSTNAME and CONF.
	CUSTNAME	1 to 16 alphanumeric	Customer name. This subfield specifies the name assigned to the customer group. Enter a customer group name consisting of 1 to 16 alphanumeric characters.
	CONF	0 to 15	Conference number. This subfield specifies the number assigned to the meet-me conference DN. Enter a value from 0 to 15.
SNPA		3-digit number	Serving number plan area. This field specifies the serving number plan area code of the meet-me conference DN. Enter a 3-digit number.
NNX		3-digit number	NNX code. This field specifies the NNX code of the meet-me conference DN. Enter a 3-digit number.
DEFGDIGS		4-digit number	DEFG digits. This field specifies the last 4 digits of the meet-me conference DN. Enter a 4-digit number.
LSCOMB		0 to 255	Line screening code flag number. This field specifies the line screening code flag number. Enter a value from 0 to 255.
DID		Y or N	Direct inward dial. This field specifies whether all lines and incoming trunks that pass the line screening code check are allowed to dial the meet-me conference DN. Enter Y if all lines and incoming trunks that pass the line screening code check are allowed to dial the meet-me conference DN. Enter N if only the lines and incoming trunks in the same customer group family as the meet-me conference DN are allowed to dial the meet-me conference DN.

Meet-Me Conference Feature Expansion (continued)

Datafilling table MMCONF (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
DIDORIG		Y or N	Direct inward dial origination. This field specifies whether extragroup lines can initiate a meet-me conference. Enter Y if extragroup lines can initiate a meet-me conference. Enter N if initiation is restricted to intragroup lines. Note: If fields DID and DIDORIG are set to Y, all conferees can be extragroup. If field DID is set to Y and field DIDORIG is set to N, at least one conferee must belong to the same customer group family as the meet-me conference DN. When any conferee is released from the conference, a check ensures that at least one of the remaining conferees is intragroup.
ACALLOW		Y or N	Enter ACALLOW (a call allowed) to allow an attendant be to join/transfer calls to a meet-me conference.
SIZE		0 to 150	Size. This field specifies the number of callers allowed into the conference calls. Enter a value from 0 to 150.
CONFTYPE		CODEADDON, CODEONLY, CNF6ADDON, FLASHONLY, or STD	Conference type. This field specifies the type of conference control. Enter STD for standard conference.
OPTIONS			Options. This field consists of subfield MMOPTNS.
	MMOPTNS	NARS	Meet-me conference option. An attendant enters option NARS (network access registers) to allow NAR access for calls terminating to a meet-me conference, and datafill refinement NARNAME.
	NARNAME		Network access registers name. Enter the name of the NAR through which a call must have access to continue. The NAR name must be datafilled in table NARDATA (Network Access Registers Data).

Meet-Me Conference Feature Expansion (end)

Datafill example for table MMCONF

The following example shows sample datafill for table MMCONF.

MAP display example for table MMCONF

TABLE: MMCONF								
LKEY SIZE	SNPA CONFTYPE	NNX	DEFGDIGS	LSCOMB	DID	DIDORIG		
MDCGRP1 6	1 919 STD	556	1212 (NARS NARGRP1)	1 \$	Y	Y		

Translation verification tools

-Me Conference Feature Expansion does not use translation verification tools.

SERVORD

-Me Conference Feature Expansion does not use SERVORD.

Meet-Me Page

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS28 and later versions

Requirements

The Meet-Me Page has the following operation requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The Meet-Me Page feature allows an end user to put a caller on hold. The Meet-Me Page feature allows an end user to page the called person or department. The LPA feature allows users to maintain control of the paging sequence. The LPA offers an easier activation of paging. The Meet-Me Page is only available to MDC customers.

Operation

The Meet-Me Page feature allows the end user to maintain control of a call when paging the called party. This end user control can occur from the following features:

- an attendant console
- a 500/2500 station
- a Meridian business set (MBS)

The paged party answers the page with an answerback code. The system connects the paged party to the user or to the caller before connection to the caller.

When an end user received an incoming call in the past, current features paged the called party. The current features were Call Park (CP) and Loudspeaker Paging (LP). The end user determines if the system can park the incoming call. If the system can park an incoming call, the end user can park the calling party and page the called party. If the paged party answers the page, the call connects. If the paged party does not hear the page, the parked call remains parked. The call remains parked until the calling party sends a disconnect

Meet-Me Page (continued)

(on-hook) or until the Call Park times out. The end user does not have control or knowledge of the status of the parked call.

Translations table flow

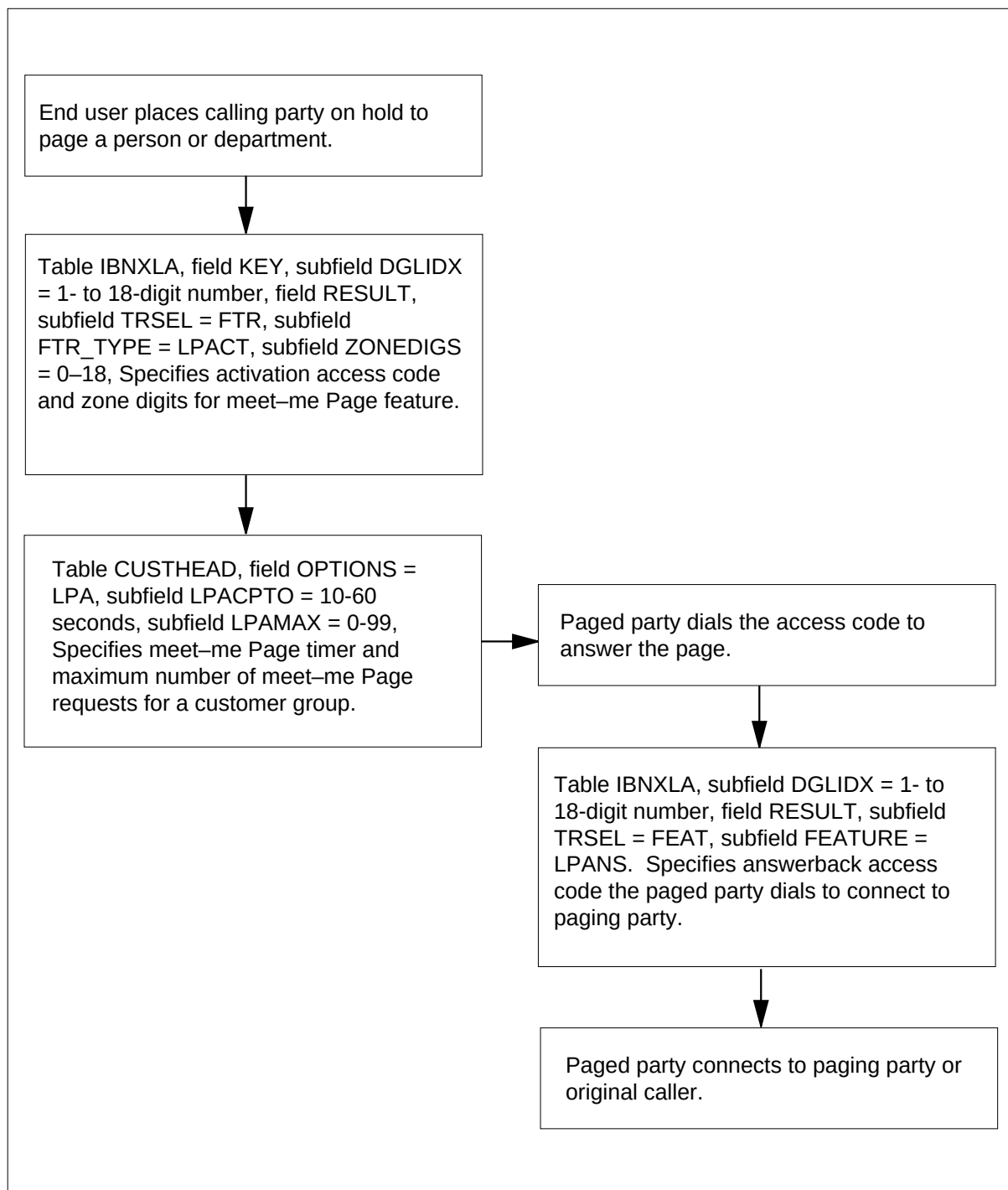
A description of the Meet-Me Page translations tables appears in the following list:

- Table IBNXLA (IBN Translation) provides the data for digit translation of calls from an MDC station. Entry of the activation access code that the end user dials to activate meet-me Page occurs in table IBNXLA. Entry of the answerback access code that the paged party dials to answer a page occurs in table IBNXLA. For the activation access code, entry of the activation access code digits occurs in subfield DGLIDX. Subfield TRSEL is FTR. Subfield FTR_TYPE is LPACT. For the answerback access code, entry of the answerback access code digits occurs in subfield DGLIDX. Subfield TRSEL is FEAT. Subfield FEATURE is LPANS.
- Table CUSTHEAD (Customer Group Head) provides data for customer groups with MDC features. When a customer group requires the LPA feature, field OPTIONS setting is LPA.

The Meet-Me Page translation process appears in the following flowchart.

Meet-Me Page (continued)

Table flow for Meet-Me Page



Meet-Me Page (continued)

Datafill content the flowchart uses appears in the following table.

Datafill example for Meet-Me Page

Datafill table	Example data
IBNXLA	CTX3 40 FTR 2 LPACT HOST 0 0 1 18 0
CUSTHEAD	BNR CXT DXT LPA 30 8 \$
IBNXLA	CTX3 41 FEAT N N N LPANS

Limits

The following limits apply to Meet-Me Page:

- you can install Meet-Me Page in an MDC customer group, but callers can be from outside the customer group.
- a limit is present on the number of Meet-Me Page requests that remain together for each customer group. The entry in subfield LPAMAX in table CUSTHEAD determines this limit. Subfield LPAMAX can have a value from 0 to 99.
- if the paging party controls the answerback, the paging party cannot start 3WC or CXR before the paged party responds.
- the paged party cannot use 3WC or CXR to answer the page.
- you cannot activate a Meet-Me Page through the use of a wild card key or another feature key on the attendant console.

Interactions

The following paragraphs describe the actions between Meet-Me Page and other functionalities.

- Call Transfer. When the end user activates Meet-Me Page, the end user cannot transfer the incoming call. The end user cannot transfer the incoming call to the paging equipment while paging occurs. If the paging party controls the answerback, the paging party cannot start CXR. If the paging party controls the answerback, the paged party cannot start CXR to answer the page.
- Call Waiting. If the paging party controls the answerback, incoming calls do not start Call Waiting (CWT).
- Three-Way Calling (3WC). If the paging party controls the answerback, the paging party cannot start 3WC. If the paging party controls the answerback, the paged party cannot start 3WC to answer the page.

Meet-Me Page (continued)

When the paged party answers the page, the system joins the paged and paging parties. The system joins these parties in a two-port connection with the calling party on hold. When the paging party disconnects, the system transfers the call to the paged party.

Activation/deactivation by the end user

The system can activate the LPA feature on each of the following devices:

- attendant console
- MBS
- 500/2500 station

Attendant console

To activate the LPA feature, the attendant dials the LPA activation access code. If an idle LPA resource is available, the system reserves the resource. When this event occurs the LPA index displays at the attendant console. The system attempts a connection to the paging equipment. If a talking path is available and established, the Destination (DEST) lamp lights. When this event occurs, the attendant speaks in the handset to perform a page. If a path is not available or the paging equipment is busy, the busy tone is returned. If a resource is not available, the system returns a reorder tone to the attendant.

After paging, the attendant can control the page or release control of the page.

Controlling the page

To control the answerback, the attendant presses the RELEASE DEST key and waits for the paged party to answer. Press the RELEASE DEST key to release the paging equipment line. The system holds the caller on the source side of the loop. The loop that receives the incoming call is busy until the paged party answers the page. The attendant can answer other calls and reconnect to the calling party again.

To answer the page, the paged party dials the Meet-Me Page answerback access code from a non-attendant console line. This non-attendant console line is in the customer group. The system gives ringing to the paged party and recall tone to the attendant. The attendant presses the loop key to connect to the paged party. When the connection occurs, the attendant can release the active loop. In this event, the system transfers the calling party to the paged party.

If the paged party does not answer the page, the attendant can page again or disconnect the calling party. To perform a page again, the attendant presses the loop key of the calling party. This press of the loop key connects the attendant

Meet-Me Page (continued)

to the paging equipment and issue the page again. The attendant presses the RELEASE DEST key and waits for the paged party to answer.

If the attendant does not want to control the answerback, the attendant presses the Release key after paging. This action parks the incoming call against the Meet-Me Page resource. The loop is idle. The attendant can use the loop for incoming or outgoing calls.

To answer the page, the paged party dials the answerback access code. The system connects the paged party to the parked caller. If the paged party does not answer the page, the parked call times out. The system gives recall tone to the attendant. When the time-out occurs, the system deactivates the Meet-Me Page feature.

Meridian business set

The MBS end user can activate the Meet-Me Page feature. To activate this feature, the end user presses the Call transfer/Three-way call (CXR/3WC) key. The end user dials the Meet-Me Page activation access code.

A check occurs to see if the MBS has a display unit. If a display unit is present, a search occurs for an idle Meet-Me Page resource. If an idle Meet-Me Page resource is available, the index of the idle meet-me Page resource appears on the display unit. The end user connects to the paging equipment and can page. If a resource is not idle, the system returns the reorder tone to the end user.

If a display unit is not on the MBS, a search for an idle Meet-Me Page resource does not occur. The end user receives a dial tone and must enter an index. The entry of the index occurs in table CUSTHEAD with subfield LPAMAX set to a range of 0 to 99. This index finds an idle resource. If an idle resource is present, the end user connects to the paging equipment and can page.

After paging, the end user can control the page or release control of the page.

Controlling the page

To control the page, the end user presses the CXR/3WC key. This action disconnects the end user from the paging equipment and connects the end user to the caller again. When the system connects the pager and caller are connected, the following occurs. The pager and caller wait for the paged party to answer the page. These lines cannot receive calls.

To answer the call, the paged party dials the Meet-Me Page answerback access code. This action establishes three-port conference circuit among the calling party, paging party, and paged party. The calling and paging parties receive a short tone burst that notifies the parties of the new connection. A speech path occurs between the paging and paged parties. The end user places the calling

Meet-Me Page (continued)

party on hold. The paging party can use Three-way Calling (3WC) to form a conference or Call Transfer (CXR). These features allow the paging party to transfer the call to the paged party.

If the paged party does not answer the page, the paging party can disconnect to cancel feature Meet-Me Page. The paging party can flash the hookswitch to attempt to reconnect to the paging equipment. If the equipment is busy, a busy tone occurs. If the equipment is idle, the page occurs in the previous method.

Releasing control of the page

To release control of the page, the end user disconnects after paging. This disconnection signals a request to park the calling party against the Meet-Me Page resource. The system disconnects the end user from the paging equipment. When the calling party waits for the paged party to dial the answerback access code, the calling party receives ringback.

When the paged party dials the answerback access code, the paged party connects to the calling party. If the paged party does not answer, a recall timer expires. The system rings the paging party again, which cancels Meet-Me Page activation.

500/2500 set

To activate the Meet-Me Page feature, the 500/2500 set end-user performs the following steps:

- presses the CXR/3WC key
- dials the Meet-Me Page activation access code
- dials the required zoning digits

The Meet-Me Page feature can provide a minimum of one building. In a multibuilding configuration, each building is a zone with associated zoning digits. The system sends the zoning digits to the paging equipment. After the end user dials the zoning digits, a dial tone prompts the end user to enter the index digit. This index digit finds a Meet-Me Page resource. If the Meet-Me Page resource is busy, the system returns a busy tone to the end user. The system does not search for an idle meet-me Page resource. If the meet-me Page resource is idle, the end user connects to the paging equipment and issues the page.

After paging, the end user can control the page or release control of the page.

Controlling the page

To control the page, the end user presses the CXR/3WC key. The user presses this key to disconnect from the paging equipment and connect to the calling

Meet-Me Page (continued)

party. The end user and the calling party wait for the paged party to answer the page. The lines of the end user and the calling party stay busy, which prevents the lines from receiving calls. The end user and the calling party hear rings when the parties wait for the paged party to answer the page.

To answer the call, the paged party dials the Meet-Me Page answerback access code. The system prompts the paged party to enter the Meet-Me Page resource index digit. The system establishes a three-port conference circuit among the calling party, paging party, and paged party. The calling and paging parties receive a short tone burst that notifies the parties of the connection. A speech path occurs between the paging and paged parties. The end user places the calling party on hold. The paging party can use 3WC to form a conference or CXR to transfer the call to the paged party.

If the paged party does not answer the page, the paging party can disconnect to cancel the Meet-Me Page feature. Or, the paging party can flash the hookswitch to attempt to connect to the paging equipment again. If the equipment is busy, the system gives a busy tone. If the equipment is idle, the page can occur in the previous method.

Releasing control of the page

To release control of the page, the end user disconnects. This disconnection parks the call against the Meet-Me Page resource.

When the paged party dials the answerback access code, the system prompts the paged party to enter the index digit. The system connects the paged party to the calling party. If the paged party does not answer, a recall timer expires. The paging party is rung again, which cancels the Meet-Me Page activation.

Billing

The Meet-Me Page does not affect billing.

Station Message Detail Recording

The Meet-Me Page does not affect Station Message Detail Recording.

Datafilling office parameters

The Meet-Me Page does not affect office parameters.

Meet-Me Page (continued)

Datafill sequence

The tables that require datafill to implement Meet-Me Page appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Meet-Me Page

Table	Purpose of table
CUSTHEAD	Customer Group Head. This table contains the customer group names assigned to the blocks of data in table IBNXLA.
IBNXLA	The IBN Translation can contain the following data: • the digit translation of calls from an MBS • a 500/2500 set • an attendant console • an incoming IBN trunk group • the incoming side of a two-way IBN trunk group

Datafilling table CUSTHEAD

Table CUSTHEAD (Customer Group Head) contains the customer group names assigned to the blocks of data in table IBNXLA. In table CUSTHEAD, the meet-me Page feature adds option LPA. In table CUSTHEAD, the meet-me Page feature introduces subfields LPACPTO and LPAMAX. The new value is LPA. The meet-me Page feature adds value LPA to field OPTIONS. The LPA has the new subfields LPACPTO and LPAMAX. Option LPA indicates that the customer group can access the Meet-Me Page. Subfield LPACPTO specifies how long a call the system parks before calling the original called party again. The original called party is the end user of the attendant console, MBS station, or 500/2500 set. Subfield LPAMAX specifies the maximum number of meet-me Page requests that occur together and are accessible to an MDC customer group.

Meet-Me Page (continued)

Datafill for Meet-Me Page for table CUSTHEAD appears in the following table. The fields that apply to Meet-Me Page appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CUSTHEAD

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		LPA	Options. This field specifies the option. Enter LPA. Note: If OPTIONS is LPA, subfields LPACPTO and LPAMAX require datafill.
	LPACPTO	10 to 60	The LPA Call Park Time-Out. This subfield specifies the number of seconds the system parks a call before calling the original called party again. Enter a value from 10 to 60.
	LPAMAX	0 to 99	The LPA Maximum. This subfield specifies the maximum number of meet-me Page requests that can occur together. An MDC customer group can access these subfields. Enter a value from 0 to 99.

Datafill example for table CUSTHEAD

Sample datafill for table CUSTHEAD appears in the following example.

MAP example for table CUSTHEAD

CUSTNAME	CUSTXLA	DGCOLNM	IDIGCOL	OPTIONS
BNR	CXT	DXT	LPA 30 8	\$

Datafilling table IBNXLA (activation access code)

Table IBNXLA (IBN Translation) can contain the following data:

- the data for the digit translation of calls from an MBS
- a 500/2500 set
- an attendant console
- an incoming IBN trunk group
- the incoming side of a two-way IBN trunk group

Meet-Me Page (continued)

Table IBNXLA contains the activation access code that the end user dials to activate Meet-Me Page. Subfield DGLIDX contains the activation access code digits. Subfield TRSEL is FTR. Subfield FTR_TYPE is LPACT.

Datafill for Meet-Me Page for table IBNXLA appears in the following table. The fields that apply to Meet-Me Page appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table IBNXLA (activation access code) (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
KEY		see subfields	Key. This field contains subfields XLANAME and DGLIDX.
	XLANAME	translator name	Translator Name. This subfield specifies the 1- to 8-character alphanumeric name assigned to the translator. Enter the translator name.
	DGLIDX	1- to 18-digit number	Digilator Index. This subfield specifies the access code. Enter the 1- to 18-digit number assigned as the access code.
RESULT			Result. This field contains subfield TRSEL.
	TRSEL	FTR	Translation Selector. This subfield specifies the translation selector. Enter FTR. Note: If TRSEL is FTR, subfields NO_ACCODE_DIGITS, FTR_TYPE, LEN, and ZONEDIGS require datafill.
	NO_ACCODE_DIGITS	0 to 7	Number of Activation Code Digits. This subfield specifies the number of digits in the activation access code. Enter a value from 0 to 7.
	FTR_TYPE	LPACT	Feature Result Translation Type. This subfield specifies the feature result translation type. Enter LPACT for meet-me Page activation.

Meet-Me Page (continued)**Datafilling table IBNXLA (activation access code) (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	LEN	LEN	Line Equipment Number. This subfield contains the following: • site • frame • unit • drawer or line subgroup (LSG) • shelf • slot • circuit Enter the LEN.
	ZONEDIGS	0 to 18	Zone Digits. This subfield specifies the number of zone digits that the end user dials after the activation access code. Outpulse of these zoning digits occurs in dual-tone multifrequency (DTMF) format to the paging equipment. Enter a value from 0 to 18.

Datafill example for table IBNXLA (activation access code)

Sample datafill for table IBNXLA appears in the following example. In this example, table IBNXLA contains data for the Meet-Me Page feature activation access code.

MAP example for table IBNXLA

KEY	RESULT									
CTX3	40	FTR	2	LPACT	HOST	0	0	1	18	0

Datafilling table IBNXLA (answerback access code)

Table IBNXLA (IBN Translation) can contain the following data:

- data for the digit translation of calls from an MBS
- a 500/2500 set
- an attendant console

Meet-Me Page (continued)

- an incoming IBN trunk group
- the incoming side of a two-way IBN trunk group

Table IBNXLA contains data for the answerback access code that the paged party dials to answer a page. Subfield DGLIDX contains data for the answerback access code digits. Subfield TRSEL is FEAT. Subfield FEATURE is LPANS.

Datafill for Meet-Me Page for table IBNXLA appears in the following table. The fields that apply to Meet-Me Page appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table IBNXLA (answerback access code)

Field	Subfield or refinement	Entry	Explanation and action
KEY		see subfields	Key. This field contains subfields XLANAME and DGLIDX.
	XLANAME	translator name	Translator Name. This subfield specifies the 1- to 8-character alphanumeric name that assigned to the translator. Enter the translator name.
	DGLIDX	1 to 18 digit number	Digilator Index. This subfield specifies the access code. Enter the 1- to 18-digit number assigned as the access code.
RESULT		see subfield	Result. This field contains subfield TRSEL.
	TRSEL	FEAT	Translation Selector. This subfield specifies the translation selector. Enter FEAT. Note: If TRSEL is FEAT, subfields ACR, SMDR, and FEATURE require datafill.
	ACR	Y or N	Account Code Entry. This subfield specifies if the table requires an account code. Enter Y or N.
	SMDR	Y or N	Station Message Detail Recording. This subfield specifies if the table requires SMDR. Enter Y or N.
	FEATURE	LPANS	Feature. This subfield specifies the feature. Enter LPANS for meet-me Page answerback access.

Meet-Me Page (end)

Datafill example for table IBNXLA (answerback access code)

Sample datafill for table IBNXLA appears in the following table. In this example, Table IBNXLA contains data for the meet-me Page feature answerback access code.

MAP example for table IBNXLA

KEY		RESULT				
CTX3	41	FEAT	N	N	N	LPANS

Tools for verifying translations

The Meet-Me Page does not use tools for verifying translations.

SERVORD

The Meet-Me Page does not use SERVORD.

Message Waiting Lamp Update - Link Phone

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS15 and later versions

Requirements

To operate, Message Waiting Lamp Update - Link Phone requires the following:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

Message Waiting Lamp Update - Link Phone provides notification to station users. This notification informs users that a message is in queue against the user directory number (DN). The feature allows a station user to access the station or attendant that activated the message waiting feature. The station user dials an access code to access the station or attendant. This feature also allows the station user to activate message waiting on another 500/2500 set, link telephone, or business set.

Message Waiting Lamp Update - Link Phone provides visual indication. This visual indication informs specified users that a held message is at the message center for the station of the user. These users are users of 500/2500 sets or link telephones. The message waiting lamp is in different states during a call.

Operation

When the system presents a call that is busy or not answered to the message center, the attendant denotes a message. The attendant activates the message waiting lamp for the called station before releasing the call. If the calling party does not want to leave a message, the attendant releases the call.

The following conditions indicate to the station user that a message waits:

- the Message Waiting lamp flashes
- the station user hears stuttered dial tone on call origination attempts

The station user can dial the message center DN and the access code to retrieve the message. The message center attendant answers and conveys the message.

Message Waiting Lamp Update - Link Phone (continued)

After the attendant delivers the message, the attendant deactivates the message waiting for the station. The Message Waiting lamp stops flashing.

The Message Waiting lamp does not flash under the following conditions:

- Messages are not in a queue for a station, and the station is on-hook.
- The station is off-hook.

The Message Waiting lamp flashes at 60 ipm when messages are in queue for a station, and the station is on-hook.

Translations table flow

Message Waiting Lamp Update - Link Phone does not affect translations table flow.

Limits

The following limits apply to Message Waiting Lamp Update - Link Phone:

- The feature requires a 2500 set with a lamp and a 6X19 line card.
- Lines with the message waiting lamp option assigned require line options that specify the message waiting lamp option.

Interactions

Descriptions of the actions between Message Waiting Lamp Update - Link Phone and other functionalities appear in the following paragraphs.

The following features interact with Message Waiting Lamp Update - Link Phone:

- Attendant Message Waiting
interaction description
- Station Message Waiting/Call Request/Retrieval
interaction description

Activation/deactivation by the end user

Message Waiting Lamp Update - Link Phone does not require activation or deactivation by the end user.

Billing

Message Waiting Lamp Update - Link Phone does not affect billing.

Message Waiting Lamp Update - Link Phone (continued)

Station Message Detail Recording

Message Waiting Lamp Update - Link Phone does not affect Station Message Detail Recording.

Datafilling office parameters

Message Waiting Lamp Update - Link Phone does not affect office parameters.

Datafill sequence

The tables that require datafill to implement Message Waiting Lamp Update - Link Phone appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Message Waiting Lamp Update - Link Phone

Table	Purpose of table
IBNLINES (Note)	Integrated Business Network (IBN) Line Assignment Table
FNMAP	Attendant Console Functional Key Table
IBNFEAT (Note)	IBN Line Feature Table
Note: You must enter data for this table through SERVORD. A datafill procedure does not appear in this document for this table.	

Note: The tables entered for Message Waiting Lamp Update- Link Phone also require entry of the station message waiting feature. If the station message waiting feature is active, most tables for Message Waiting Lamp Update - Link Phone already have entries.

Datafilling table FNMAP

Table FNMAP (Attendant Console Functional Key) assigns features to keys 2 through 43 on specified consoles. You must enter data in table FNMAP to define the key and lamp on the attendant console. The key and lamp are for the message waiting feature associated with the Message Waiting lamp.

The datafill for Message Waiting Lamp Update - Link Phone for table FNMAP appears in the following table. The fields that apply to Message Waiting Lamp

Message Waiting Lamp Update - Link Phone (continued)

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

Datafilling table FNMAP

Field	Subfield or refinement	Entry	Explanation and action
RESULT		see subfields	Result. This field contains subfields KEYSEL and SPFN.
	KEYSEL	SPECL	Key Selector. This subfield specifies the special key selector. Enter SPECL.
	SPFN	SPECL	Key Selector. This subfield specifies the special key selector. Enter SPECL.

Datafill example for table FNMAP

Sample datafill for table FNMAP appears in the following example.

MAP example for table FNMAP

TABLE: FNMAP		RESULT
KEY		
CONS2 3		SPECL MSGIND

Tools for verifying translations

Message Waiting Lamp Update - Link Phone does not use tools for verifying translations.

SERVORD

SERVORD limits

Message Waiting Lamp Update - Link Phone does not have SERVORD limits.

Message Waiting Lamp Update - Link Phone (continued)

SERVORD prompts

The SERVORD prompts used to assign Message Waiting Lamp Update - Link Phone to a line appear in the following table.

SERVORD prompts for Message Waiting Lamp Update - Link Phone

Prompt	Correct input	Explanation
CRRCFW	NO, ALL, DISPLAY	Call request retrieval call forwarding.
CRX	Y,N	Call request exempt.
NOTICE	MWL	Message waiting lamp.
Note: The system enters data for tables IBNLINES and IBNFEAT when you assign Message Waiting Lamp Update - Link Phone through SERVORD.		

SERVORD example for adding Message Waiting Lamp Update - Link Phone

The procedure to add Message Waiting Lamp Update - Link Phone to a line with the ADO command appears in the following example.

Message Waiting Lamp Update - Link Phone (end)

SERVORD example for Message Waiting Lamp Update - Link Phone in prompt mode

```
SO:
> ADO
SONUMBER:  NOW 93 2 26 AM
>
DN_OR_LEN:
> 0198
OPTION:
> MWT
NOTICE:
> MWL
CAR:
> Y
CRRCFWL
> ALL
CRX:
> Y
OPTION:
> $
COMMAND AS ENTERED:
ADO NOW 93 2 26 AM HOST 00 1 09 08 ( MWT MWL Y ALL Y ) $
```

SERVORD example for Message Waiting Lamp Update - Link Phone in no-prompt mode

```
> ADO 0 1 9 8 MWT MWL Y ALL Y $
```

Multiple Position Hunt with Queue

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS30 and later versions

Requirements

Multiple Position Hunt with Queue has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

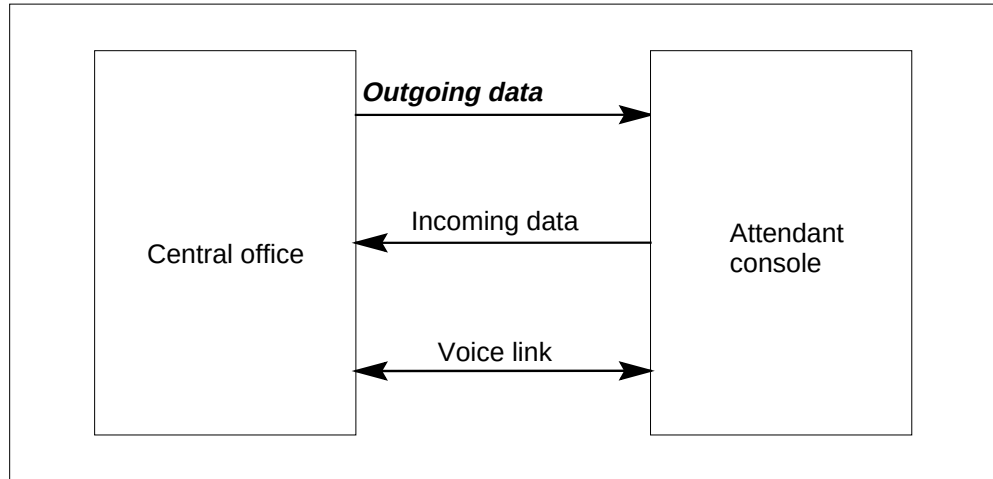
Description

The Multiple Position Hunt with Queue feature allows the distribution of calls to occur evenly across multiple non-data link attendant consoles. The system presents calls to the consoles in the order in which the calls arrive at the DMS-100 switch. Calls that the system cannot present to a console queue in the DMS-100 switch until a console is available to serve those calls.

Attendant consoles can occur as data link consoles and non-data link consoles (NDLC). Data link consoles interface to the central office through end-user loops and data links. The data links convey information like incoming call identification (ICI) and calls waiting identification to the console. The data links convey information like position busy to the central office.

An example of a data link console is the Northern Telecom MDC attendant console. The interface of this console to the central office appears in the following figure.

Multiple Position Hunt with Queue (continued)

MDC (data link) attendant console

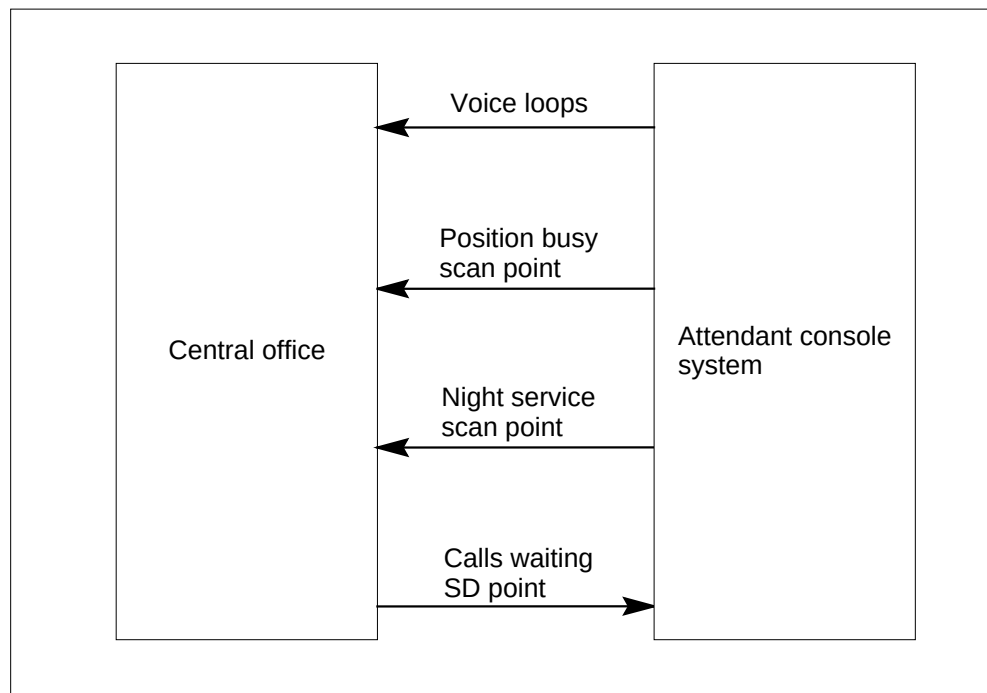
The NDLCs are attendant consoles that interface to a central office through the following:

- multiple end-user loops
- scan points
- signal distribution (SD) points

The ICI information is assigned for each at the console. Scan points detect Position Busy conditions. The SD points give Call Waiting Indications. A generic diagram of a NDCL appears in the following figure.

Multiple Position Hunt with Queue (continued)

NDCL configuration



Definitions related to multiple position hunting

This feature applies to NDCL. The end user must learn the following definitions that appear before the algorithm used for multiple position hunting on an NDLC appears.

Console group

A group of one or more consoles. A console can belong to only one console group. Each console group has one central office queue. This queue is for all call types that terminate in that console group.

Call Waiting indication

Set the call waiting indication when calls queue at the central office. The call associates with a console group. An SD point sets the call.

Position busy

Position busy indicates that the console must not be offered any additional calls. Position busy associates with an individual console. A scan point detects the position busy.

Two types of position busy associate with NDLCs. The attendant activates the first type by the attendant by presence of a position busy key on the console.

Multiple Position Hunt with Queue (continued)

The attendant presses this key when the attendant leaves the console unattended.

The console activates the second type automatically. This activation occurs when the console rings or the console is active on a call. This activation occurs to prevent additional calls from being offered to the console until the current call is serviced.

Both types of position busy signal through the same scan point. The DMS switch does not have a method to distinguish between the two types of position busy. A change in the position busy status does not affect calls that already have a connection to the console.

Night service

Night service associates with a console group. Manually set night service from a console. Night service indicates that no console is attended. The system detects night service through a scan point. When night service is active, all subsequent calls reroute to a predetermined directory number (DN), or busy signal.

All consoles that are position busy do not activate night service.

A change in the night service status does not affect calls already connected to a console. A change in the night service status does not affect calls queued for a console group.

Power failure transfer

Power failure transfer reroutes calls when a power failure occurs at the end-user premises. The NDCL cannot handle calls. The system activates power failure transfer indirectly through the night service or position busy scan points. Setting the normal state of these scan points to the correct value causes night service or position busy to activate. This activation occurs during a power outage.

Call type

The call type is a numeric value that identifies the dialed DN that reaches the console group. The call type identifies which attendant lines must terminate calls to that DN.

Each line on a console limits to a single call type. This limitation is necessary to indicate the proper ICI to the attendant. Multiple lines on a console can have the same call type. The console datafill that associates with the line derives the ICI. The central office does not supply the ICI.

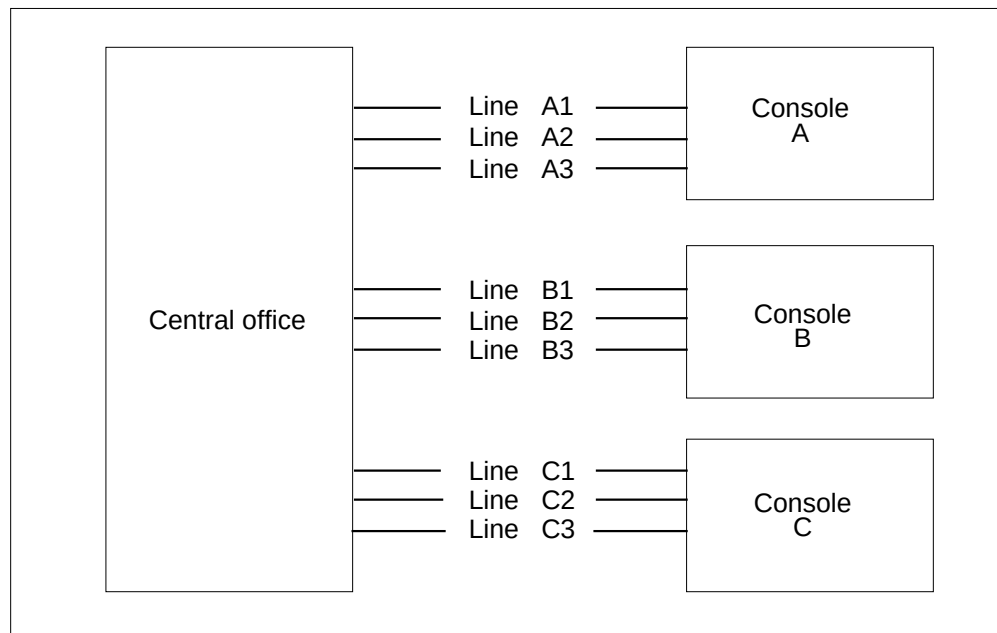
Multiple Position Hunt with Queue (continued)

Examples of multiple position arrangements

In the following examples, the notation X.Y identifies calls. The X is the call number and Y is the call type. For example, 2.3 refers to call 2, which is of call type 3.

The arrangement of three NDLCs appears in a group with each console terminating three lines in the following figure. Each line on a console terminates a separate call type.

Multiple position arrangement

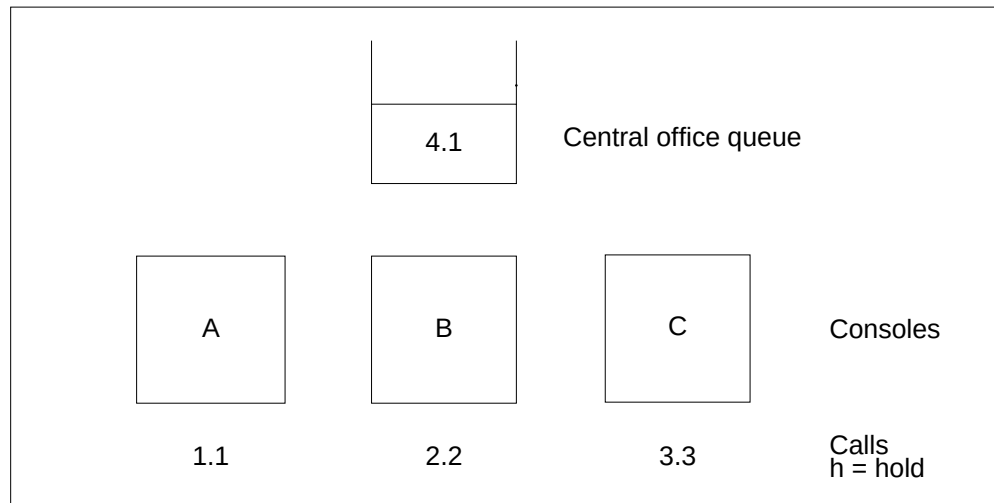


Assume that three different calls (1.1, 2.2, and 3.3) arrive for the console arrangement. The first call terminates at Console A, the second at Console B, and the third at Console C.

The system places the fourth call in a central queue and gives audible ringing. These actions occur if a fourth call, call 4.1, arrives when each console is active on the call, position busy. Activation of the call waiting indicator for this MPH group occurs. The call status after the queuing of call 4.1 appears in the following figure.

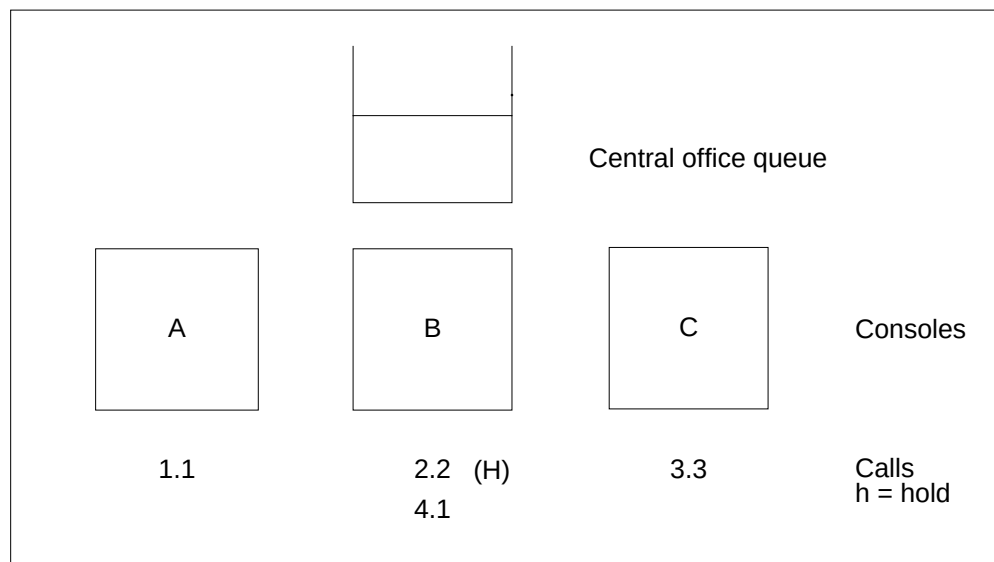
Multiple Position Hunt with Queue (continued)

Call status after queuing call 4.1

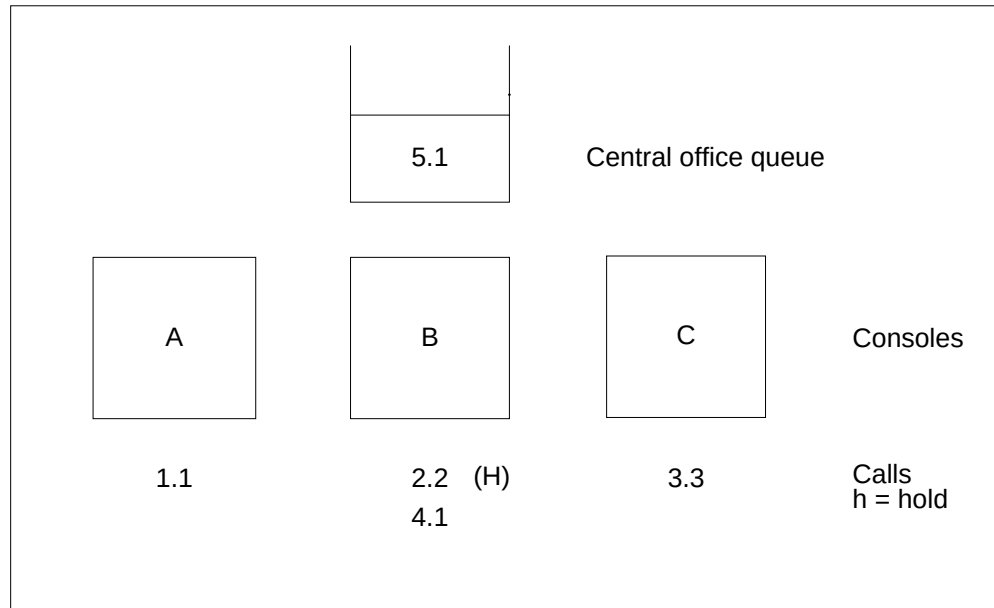


Assume that Console B extends call 2.2 to a station and places call 2.2 on hold. The position busy indicator of the console changes to idle. When the DMS-100 switch detects this change, the DMS-100 looks for calls that can terminate on console B. Call 4.1 can terminate on console B. This call is removed from the queue and connects to line B1. The call waiting indicator SD point returns to the normal state because calls do not remain the queue. The call status after call 4.1 is removed from the queue appears in the following figure.

Call status after removing call 4.1



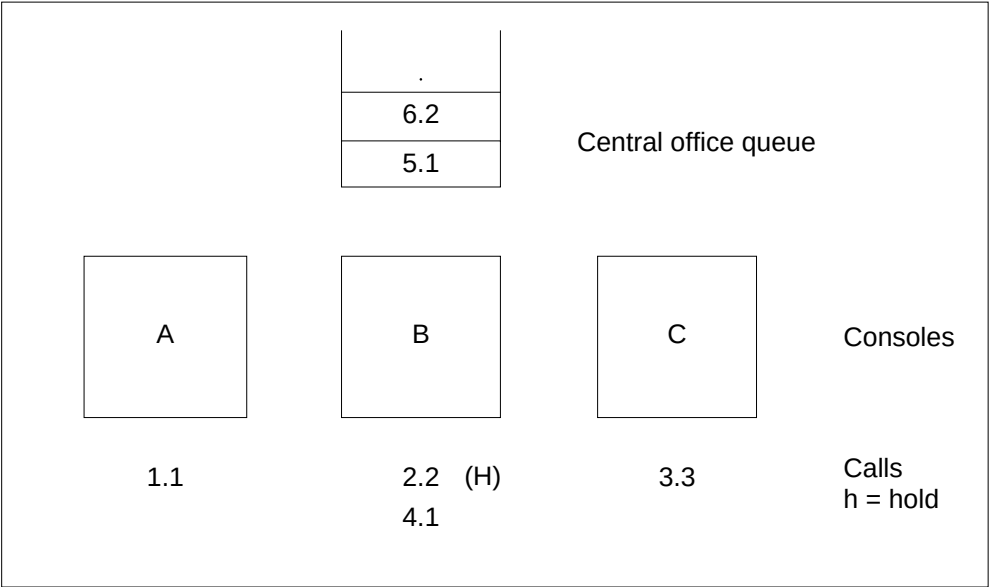
Call status after queuing call 5.1



297-8021-350 Standard 14.02 May 2001

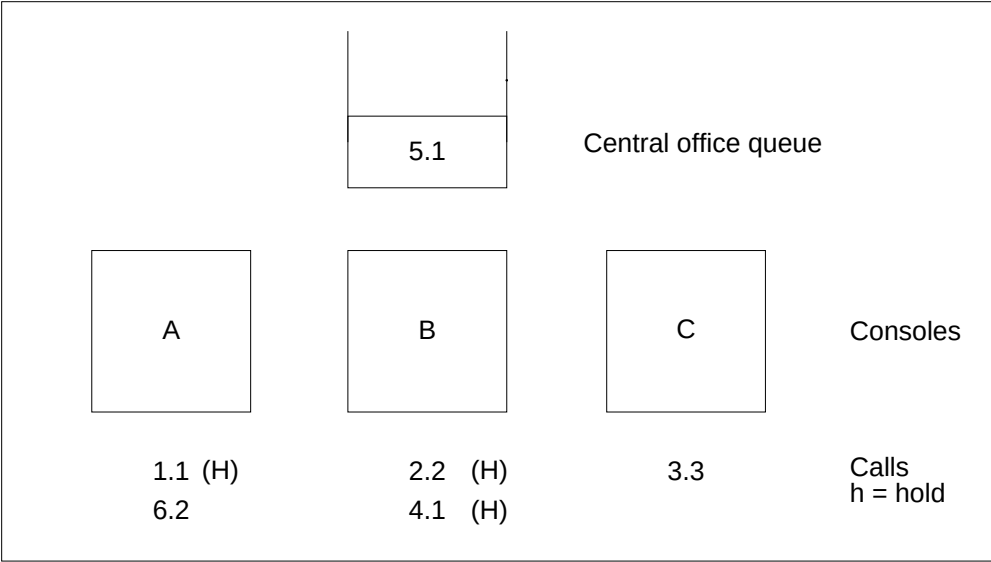
Multiple Position Hunt with Queue (continued)

Call status after queuing call 6.2



Console B places call 4.1 on hold. Queuing does not take place because call 5.1 or 6.2 cannot terminate on console B. Console A places call 1.1 on hold. Call 5.1 remains in the queue because call 5.1 cannot terminate on console A. Call 6.2 can terminate on console A. Call 6.2 is removed from the queue and presented to console A. The call states at this point appear in the following figure.

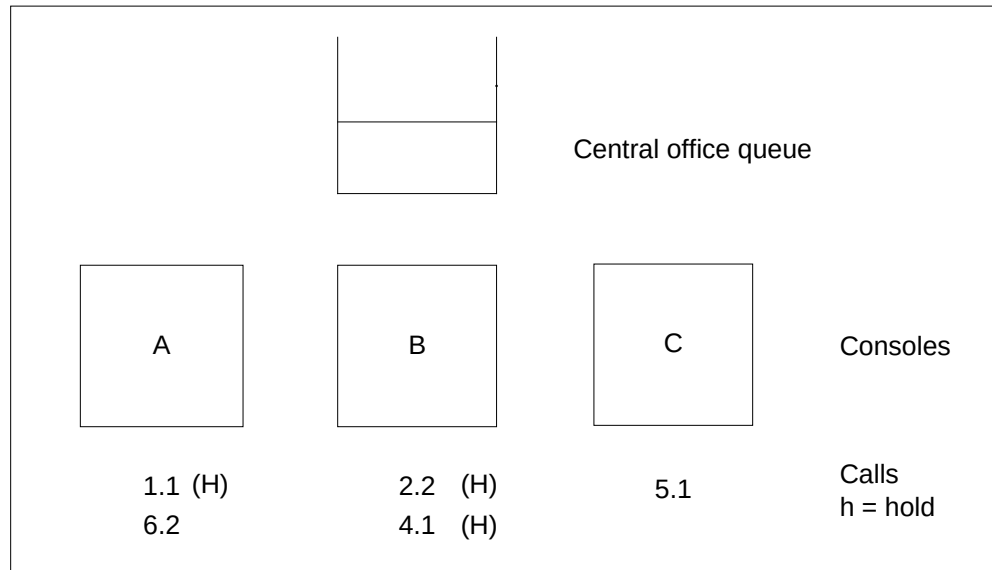
Call status



Multiple Position Hunt with Queue (continued)

Console C releases call 3.3. Remove call 5.1 from the queue and connect to line C1. The call status after removal of the call from the queue of call 5.1 appears in the following figure.

Call status after removing call 5.1



Operation

The system directs a call to a multiple hunting arrangement by associating a DN with each call type in the console group. When this association occurs, follow the steps for each incoming call:

- A check occurs on the status of night service for the console group. If the group is in night service, the call redirects to the predefined DN. An attempt occurs to find a console on which to terminate this call. This attempt occurs if the console group is not in night service.
- If night service is not in effect, a check occurs of the position busy status of the current console. If the console is busy, the search continues with the next console in the group.
- If the console is not busy, a check occurs on the status of the available lines on that console. Checking for an available line on a console begins with the first line on the console. If a line cannot handle this call type, the search continues with the next console in the group. If a line is available, the call terminates on that line.
- After you offer a call to a console, a search begins to find the next available console in the console group. This search identifies the console from which the next call hunts. If a console is not position busy, the next hunt

Multiple Position Hunt with Queue (continued)

begins with the console. If all consoles are position busy, the next hunt begins with the next console.

- If a console is not available, an attempt occurs to queue the call in the central office. If the queue contains the maximum number of calls, the call redirects to a predefined overflow route. If room is present in the queue, the system places the call at the end of the queue. The call waiting indication SD point activates to indicate that calls are queued.

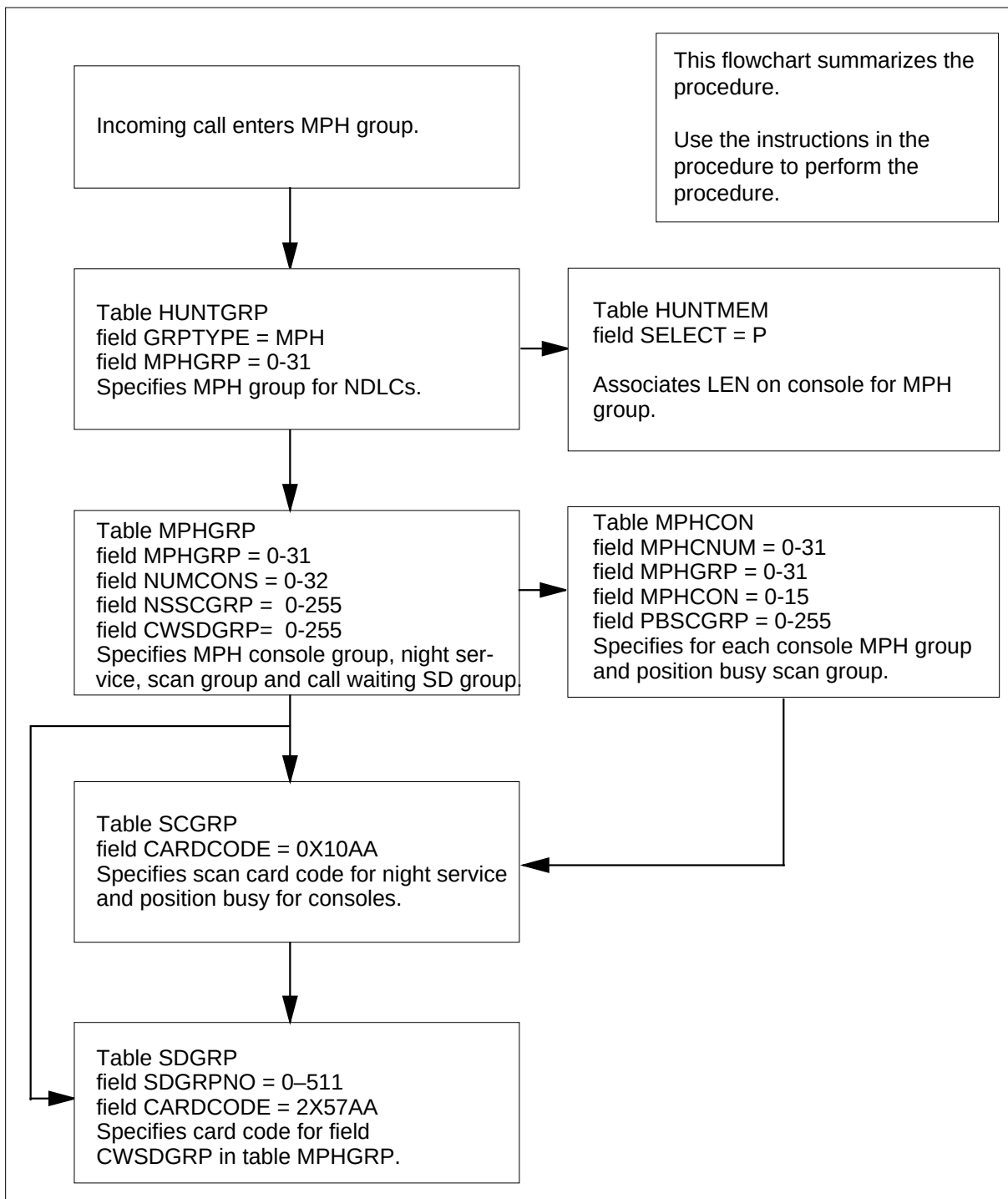
Translations table flow

The description of Multiple Position Hunt with Queue tables appear in the following list:

- Table HUNTGRP (Hunt Group) contains the data for each hunt group assigned in the switching unit.
- Table HUNTMEM (Hunt Group Member) lists the members assigned to the hunt groups that appear in table HUNTGRP.
- Table MPHGRP (Multiple Position Hunt Group) specifies the characteristics of a group of NDLCs.
- Table MPHCON (Multiple Position Hunt Console) specifies the characteristics of each console in an MPH group.
- Table SCGRP (Scan Group) specifies the location of scan group cards in the DMS-100 switch.
- Table SDGRP (Signal Distributor Group) specifies the location of SD cards in the DMS-100 switch.

Multiple Position Hunt with Queue (continued)

Table flow for Multiple Position Hunt with Queue



Multiple Position Hunt with Queue (continued)

Datafill example for Multiple Position Hunt with Queue

Datafill table	Example data
HUNTGRP	0 919 5550040 MPH 0 1 3 NSDN 8100 N N N RCVD N N N N N 2 \$
HUNTMEM	0 1 N P HOST 0 0 0 0 0 1
MPHGRP	10 2 4 OFRT 30 0 0 0 0 0 0 Y 20 AUDIO1
MPHCON	2 10 0 16 0 0 0
SCGRP	0 MTM 0 14 0X10AA
SDGRP	0 MTM 0 12 2X57AA

Limits

The following limits apply to Multiple Position Hunt with Queue:

- A maximum of 32 MPH groups are allowed in a DMS-100 office.
- A maximum of 16 consoles are allowed in an MPH group.
- A maximum of 32 consoles are allowed in a DMS-100 office.
- A maximum of 32 lines are allowed on an NDLC.
- A maximum of 32 calls can be queued for a MPH group.
- Call Request Retrieval (CRR) calls can occur to consoles. The system does not support queuing of this type of call.
- The following options are not compatible with MPH groups:
 - ACD
 - AUL
 - BC
 - CFB
 - CFD
 - IDTM
 - MDN
 - RAG
 - RMB
 - SHU
 - SOR
 - UCD

Multiple Position Hunt with Queue (continued)

- Some NDLCs expect the central office to supply specified voltages on the call waiting loop when this loop is closed. The 2X57AA cards for call waiting indication only provide loop closure. Additional hardware must be provided at the end-user premises for some NDLCs. This condition allows the call waiting indication to operate correctly.
- Many hunt group options cannot be assigned to MPH groups or do not have an effect on MPH Hunting patterns. The following are the options:
 - CIR
 - TFO
 - LOR
 - LOD
 - CFGDA
 - OFR
 - OFS

Interactions

Multiple Position Hunt with Queue does not interact with other features.

Activation/deactivation by the end user

Multiple Position Hunt with Queue does not require activation or deactivation by the end user.

Billing

Multiple Position Hunt with Queue does not affect billing.

Station Message Detail Recording

Multiple Position Hunt with Queue does not affect Station Message Detail Recording.

Datafilling office parameters

Multiple Position Hunt with Queue does not affect office parameters.

Multiple Position Hunt with Queue (continued)

Datafill sequence

The tables that require datafill to implement Multiple Position Hunt with Queue appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Multiple Position Hunt with Queue

Table	Purpose of table
SCGRP	Scan Group. The product engineering code (PEC) and the physical location at the host or remote switch units appear in this table. The PEC and the physical location are for the scan groups reserved for use as scan points for line features.
SDGRP	Signal Distributor Group. The product engineering code (PEC) and the physical location at the host or remote switching units appear in this table. The PEC and the physical location are for the signal distributor groups reserved for use as signal distributor points for line features.
MPHGRP	Multiple Position Hunt Group. This table specifies the characteristics of a group of non-data link consoles.
MPHCON	Multiple Position Hunt Console. This table specifies the characteristics of an individual console in an MPH group.
HUNTGRP (Note)	Hunt Group. This table contains the data for each hunt group assigned in the switching unit.
HUNTMEM (Note)	Hunt Group Member. The members assigned to the hunt groups that appears in table HUNTGRP appears in this table.
Note: Entry of this table is through SERVORD. Datafill procedures or examples are not provided. See "SERVORD" for an example of how to use SERVORD to enter data in this table.	

Datafilling table SCGRP

Table Scan Group (SCGRP) specifies the location of scan group cards (0X10AA) in the DMS-100 switch. You must enter a card with data before specifying the night service and position busy SC points in table MPHGRP and table MPHCON respectively. Information supplied in table SCGRP is the Maintenance Trunk Module (MTM) and Circuit at which the 0X10AA card is located.

Datafill for Multiple Position Hunt with Queue for table SCGRP appears in the following figure. The fields that apply to Multiple Position Hunt with Queue

Multiple Position Hunt with Queue (continued)

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

Datafilling table SCGRP

Field	Subfield or refinement	Entry	Explanation and action
SCGRPNO		0 to 511	Scan Group. This field specifies the scan group number. Enter a value from 0 to 511.
TMTYPE		MTM, RMM, RSM	Trunk Module Type. This field specifies the type of trunk module on which the miscellaneous scan card is mounted. Enter MTM for maintenance trunk module, RMM for remote maintenance module, or RSM for remote service module.
TMNO		0 to 2047	Trunk Module Number. This field determines the trunk module number assigned to the MTM, RMM, or RSM on which the miscellaneous scan card mounts. Enter a value from 0 to 2047.
TMCKTNO		0 to 29	Trunk Module Circuit Number. This field specifies the trunk module circuit number assigned to the MTM, RMM, or RSM on which the miscellaneous scan card mounts. Enter a value from 0 to 29.
CARDCODE		0X10AA	Product Engineering Code. This field specifies the engineering code of the scan card. Enter 0X10AA.

Datafill example for table SCGRP

The following MAP (maintenance and administration position) example shows an MPH group with three consoles. The three consoles handle three call types. The MPH group requires four scan points, three for position busy (one for each console) and one for night service. All four scan points can be on the same card. The example illustrates how a tuple in table SCGRP appears on the MAP .

Datafill for table SCGRP appears in the following example.

MAP example for table SCGRP

TABLE: SCGRP					
SCGRPNO	TMTYPE	TMNO	TMCKTNO		CARDCODE
0	MTM	0	14		0X10AA

Multiple Position Hunt with Queue (continued)

Datafilling table SDGRP

Table Signal Distributor Group (SDGRP) specifies the location of SD cards (2X57AA) in the DMS-100 switch. You must enter a card with data before you specify the calls waiting Indicator SD point in table MPHGRP. Information in table SDGRP includes the MTM and circuit at which the 2X57AA card is located.

Datafill for Multiple Position Hunt with Queue for table SDGRP appears in the following table. The fields that apply to Multiple Position Hunt with Queue appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table SDGRP

Field	Subfield or refinement	Entry	Explanation and action
SDGRPNO		0 to 511	Signal Distributor Group. This field specifies the SD group number. Enter a value from 0 to 511.
TMTYPE		MTM, RMM, or RSM	Trunk Module Type. This field specifies the type of trunk module on which the signal distributor card is mounted. Enter MTM, RMM, or RSM.
TMNO		0 to 2047	Trunk Module Number. This field specifies the trunk module number assigned to the MTM, RMM, or RSM on which the SD card mounts. Enter a value from 0 to 2047.
TMCKTNO		0 to 29	Trunk Module Circuit Number. This field specifies the trunk module circuit number assigned to the MTM, RMM, or RSM on which the SD card mounts. Enter a value from 0 to 29.
CARDCODE		2X57AA	Product Engineering Code. This field specifies the engineering code of the SD card. Enter 2X57AA.

Datafill example for table SDGRP

Datafill for table SDGRP appears in the following example.

Multiple Position Hunt with Queue (continued)

MAP example for table SDGRP

TABLE : SDGRP					
SDGRPNO	TMTYPE	TMNO	TMCKTNO	CARDCODE	
	0	MTM	0	12	2X57A

Datafilling table MPHGRP

Multiple Position Hunt with Queue creates table Multiple Position Hunt Group (MPHGRP). The contents of this table specify the characteristics of a group of NDLCs. Information specified in this table includes:

- number of consoles
- maximum queue length and overflow route
- ringing threshold and announcements/music
- night service scan point
- calls waiting indicator SD point.

The system supports a maximum of 32 MPH groups.

Datafill for Multiple Position Hunt with Queue for table MPHGRP appears in the following table. The fields that apply to Multiple Position Hunt with Queue appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table MPHGRP (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
MPHGRP		0 to 31	MPH Console Group Number. This field specifies the MPH group number to which the console is assigned. Enter a value from 0 to 31.
NUMCONS		0 to 16	Number of Non-Data Link Consoles. This field specifies the number of NDLCs in this console group. This field determines the number of tuples allocated in table MPHCON for this MPH group. Enter a value from 0 to 16.
CQLENGTH		0 to 32	Calls in Queue. This field specifies the number of calls that can be queued in the central office for this MPH group. Enter a value from 0 to 32.

Multiple Position Hunt with Queue (continued)**Datafilling table MPHGRP (Sheet 2 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
CQOVRTE		alphanumeric	Central Office Overflow Queue Route. This field specifies the route to which calls that overflows from the central office queue are directed. Enter the table name and route number.
NSSCGRP		0 to 511	Night Service Scan Group. This field specifies the scan group in the night service scan group in table SCGRP that associates with night service. Enter a value from 0 to 511.
NSSCPT		0 to 6	Night Service Scan Point. This field specifies the scan point in the night service scan group that associates with night service. Enter a value from 0 to 6.
NSNORMST		0, 1	Normal State Night Service. This field specifies the normal state of the night service scan point. Enter 0 for open or 1 for closed.
CWSDGRP		0 to 511	Calls Waiting SD Group. This field specifies the SD point in the calls waiting SD group. This SD point activates when calls are present in the central office queue for this MPH group. Enter a value from 0 to 511.
CWSDPT		0 to 6	Calls Waiting SD Point. This field specifies that SD point in the call waiting SD group. This SD point activates when calls are present in the central office queue for this MPH group. Enter a value from 0 to 6.
CWNORMST		0, 1	Normal State Calls Waiting SD Point. This field specifies the normal state of the calls waiting SD point. Enter 0 for open or 1 for closed.
AUDIO		Y, N	Audio Option. This field specifies if the MPH group has audio. Enter Y or N.
If AUDIO has a Y setting subfields AUDTHRSH and AUDIOIDX require datafill.			

Multiple Position Hunt with Queue (continued)

Datafilling table MPHGRP (Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	AUDTHRSH	0 to 60	Audio Threshold. This subfield specifies the time that a call spends in the queue until the call connects to the audio announcements. This subfield specifies the time in seconds. Enter a value from 0 to 60.
	AUDIOIDX	Alphanumeric	Audio Index. This subfield specifies the audio group to which a call connects. Enter the audio group name.

Datafill example for table MPHGRP

Datafill for table MPHGRP appears in the following example.

MAP example for table MPHGRP

TABLE: MPHGRP							
MPHGRP	NUMCONS	CQLENGTH	CQOVRTE	NSSCGRP	NSSCPT	NSNORMST	
	CWSDGRP	CWSDPT	CWNORMST	AUDIO		AUDIODAT	
10	2	4	OFRT 30	0	0	0	
	0	0	0	Y	20	AUDIO1	

Datafilling table MPHCON

Multiple Position Hunt with Queue creates table Multiple Position Hunt Console. The contents of this table specify the characteristics of an individual console in an MPH group. Information specified in this table includes

- console number in office (key to table)
- MPH group to which the console belongs
- console number in the group
- number of lines the console supports
- position busy scan group
- position busy scan point
- position busy normal state

The number of lines the system supports has a maximum value of 32. The system sets the number of lines according to the type of NDLC provided. You

Multiple Position Hunt with Queue (continued)

can assign a maximum of 16 consoles in an MPH group with a maximum of 32 consoles in the office.

Datafill for Multiple Position Hunt with Queue for table MPHCON appears in the following table. The fields that apply to Multiple Position Hunt with Queue appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table MPHCON

Field	Subfield or refinement	Entry	Explanation and action
MPHNUM		0 to 31	MPH Console Number. This field specifies the console number in the office. Enter a value from 0 to 31.
MPHGRP		0 to 31	MPH Group Index. This field specifies the MPH group index. Enter a value from 0 to 31.
MPHCON		0 to 15	MPH Console Index. This field specifies the MPH group console index. Enter a value from 0 to 15.
MAXLINES		1 to 32	Maximum Number of Lines. This field specifies the maximum number of lines the NDLCs can support. Enter a value from 1 to 32.
PBSCGRP		0 to 511	Position Busy Scan Group. This field specifies the scan group from table SCGRP. This scan group associates with the position busy indicator for this console. Enter a value from 0 to 511.
PBSCPT		0 to 6	Position Busy Scan Group Point. This field specifies the scan point in the position busy scan group that indicates the status of the console. Enter a value from 0 to 6.
PBNORMST		0, 1	Normal State for Position Busy. This field specifies if the scan point is open or closed. Enter 0 for open or 1 for closed.

Note: Each console can terminate 16 lines. The position busy scan points for all consoles are on scan group 0. Each scan point is normally closed. An open scan point indicates the console is busy.

Datafill example for table MPHCON

Datafill for table MPHCON appears in the following example.

Multiple Position Hunt with Queue (continued)

MAP example for table MPHCON

TABLE : MPHCON						
MPHCONUM	MPHGRP	MPHCON	MAXLINES	PBSCGRP	PBSCPT	PBNORMST
2	10	0	16	0	0	0

Tools for verifying translations

Multiple Position Hunt with Queue does not use tools for verifying translations.

SERVORD

Multiple Position Hunt with Queue defines hunt group type MPH. This addition results in modifications to the following Service Order System (SERVORD) commands:

- establish (EST)
- add (ADD)
- delete (DEL)
- out (OUT)
- add option (ADO)
- change feature (CHF)
- delete option (DEO)

This feature introduces the line options MPH and NSDN to define MPH groups.

The following options are not compatible with options MPH and NSDN:

- ACD
- AUL
- BC
- CFB
- CFD
- CWI
- CWX
- DTM
- MDN

Multiple Position Hunt with Queue (continued)

- RAG
- RMB
- SHU
- SOR
- SORC
- UCD
- DNH
- DLH
- MLH
- PRH

You must not assign additional options when you assign MPH to a set. To assign NSDN to a set, MPH must be present. The MPH and NSDN are only assignable to MDC 2500 set lines.

The system enters data in tables HUNTGRP and HUNTMEM when you assign Multiple Position Hunt with Queue with SERVORD.

SERVORD limits

Multiple Position Hunt with Queue does not have SERVORD limits.

SERVORD prompts

The SERVORD prompts used to assign Multiple Position Hunt with Queue to a line appear in the following table.

SERVORD prompts for Multiple Position Hunt with Queue (Sheet 1 of 2)

Prompt	Correct input	Explanation
MPHGRP	0 to 31	Specifies the MPH group to which the MPH group belongs. Enter a value from 0 to 31.
CALL TYPE	0 to 31	Specifies the call type that associates with the MPH group. Enter a value from 0 to 31.
MPHCON	0 to 15	Specifies the Console in the MPH group to which the member belongs. Enter a value from 0 to 15.

Multiple Position Hunt with Queue (continued)

SERVORD prompts for Multiple Position Hunt with Queue (Sheet 2 of 2)

Prompt	Correct input	Explanation
CONLINE	1 to 32	Specifies the console line of the assigned member. Enter a value from 1 to 32.
NSDN	1 to 7 Digits	Specifies the night service DN of the MPH group. Enter the 1- to 7-digits DN.

SERVORD example for adding Multiple Position Hunt with Queue

The following SERVORD example indicates how Multiple Position Hunt with Queue adds to a present line with the EST command. In this example, an MPH group with a pilot and four members establishes.

SERVORD example for Multiple Position Hunt with Queue in prompt mode

```
>EST
SONUMBER: NOW 89 07 20 8 AM
>
GROUPTYPE:
> MPH
PILOT_DN:
> 6212000
LCC:
> IBN
GROUP:
> 50B_CON
SUBGRP:
> 0
NCOS:
> 0
SNPA:
> 919
LATANAME:
> NILLATA
LTG:
```

Multiple Position Hunt with Queue (continued)

SERVORD example for Multiple Position Hunt with Queue in prompt mode

```
> 0
PILOT_LEN:
>0 0 0 0
MPHGRP:
>0
CALLTYPE:
>0
MPHCON:
>0
CONLINE
>1
MPH_MEM_LEN:
>0 0 0 1
MPHCON:
> 1
CONLINE:
> 2
MPH_MEM_LEN:
> 0 0 0 2
MPHCON:
> 2
CONLINE:
> 2
MPH_MEM_LEN:
> 0 0 0 3
MPHCON:
> 3
CONLINE:
> 2
MPH_MEM_LEN:
> 0 0 0 4
MPHCON:
> 4
CONLINE:
>2
MPH_MEM_LEN:
> $
OPTION:
> NSDN
NSDN:
> 5886
OPTION:
> $
GROUPSIZE:
> 10
```

Multiple Position Hunt with Queue (continued)

SERVORD example for Multiple Position Hunt with Queue in no-prompt mode

```
> EST $ MPH 6212000 IBN 50B_CON 0 0 919 0 0 0 0 0 0 1
0 0 0 1 1 2 0 0 0 2 2 2 0 0 0 3 3 2 0 0 0 4 4 2 $ NSDN 5 8 8 6 $ 10
```

SERVORD example for adding Multiple Position Hunt with Queue

The following SERVORD example indicates how Multiple Position Hunt with Queue adds to a present line with the ADD command. In this example, a new member adds to the MPH group created in the previous example.

SERVORD example for Multiple Position Hunt with Queue in prompt mode

```
>ADD
SONUMBER: NOW 89 07 20 8 AM
>
GROUPTYPE:
> MPH
LINK_LEN:
> 0 0 5
MPH_MEM_LEN:
> 0 0 3
MPHCON:
> 5
CONLINE:
> 1
MPH_MEM_LEN:
> $
OPTION:
> GROUPSIZE: 10
10
```

SERVORD example for Multiple Position Hunt with Queue in no-prompt mode

```
> ADD $ MPH 0 0 5 0 0 0 3 5 1 $ $ 10 $
```

SERVORD example for deleting Multiple Position Hunt with Queue

The following SERVORD example indicates how Multiple Position Hunt with Queue deletes to a line with the DEL command. In this example, all members delete from the MPH group modified in the previous example.

Multiple Position Hunt with Queue (continued)

SERVORD example for Multiple Position Hunt with Queue in prompt mode

```

>DEL
SONUMBER: NOW 89 07 20 8 AM
>
GROUPTYPE:
> MPH
MPH_MEM_LEN:
> 0 0 0 1
MPH_MEM_LEN:
> 0 0 0 2
MPH_MEM_LEN:
> 0 0 0 3
MPH_MEM_LEN:
> 0 0 0 4
MPH_MEM_LEN:
> 0 0 0 5
MPH_MEM_LEN:
> $

```

SERVORD example for Multiple Position Hunt with Queue in no-prompt mode

```

> DEL $ MPH 0 0 0 1 0 0 0 2 0 0 0 3 0 0 0 4 0 0 0 5 $

```

SERVORD example for deleting Multiple Position Hunt with Queue

The following SERVORD example indicates how Multiple Position Hunt with Queue deletes from service with the OUT command. In this example, the pilot of the MPH group modified in the previous example deletes.

SERVORD example for Multiple Position Hunt with Queue in prompt mode

```

>OUT
SONUMBER: NOW 89 07 20 8 AM
>
DN:
> 6212000
LEN_OR_LTID:
> 0 0 0 0
INTERCEPT_NAME:
> BLDN

```

Multiple Position Hunt with Queue (continued)

SERVORD example for Multiple Position Hunt with Queue in no-prompt mode

```
> OUT $ 6212000 0 0 0 0 BLDN
```

SERVORD example for adding Multiple Position Hunt with Queue

The following SERVORD example indicates how Multiple Position Hunt with Queue adds to a line with the ADO command. The previously established MPH group has option NSDN assigned to the MPH group with a night service DN of 6218000.

SERVORD example for Multiple Position Hunt with Queue in prompt mode

```
>ADO
SONUMBER: NOW 89 07 20 8 AM
>
DN_OR_LEN:
> 6212000
OPTION:
> NSDN:
NSDN:
> 6218000
OPTION:
> $
```

SERVORD example for Multiple Position Hunt with Queue in no-prompt mode

```
> ADO $ 6212000 NSDN 6218000 $
```

SERVORD example for changing Multiple Position Hunt with Queue

The following SERVORD example indicates how Multiple Position Hunt with Queue changes with the CHF command. In this example, the MPH group NSDN changes to 6216000.

Multiple Position Hunt with Queue (end)

SERVORD example for Multiple Position Hunt with Queue in prompt mode

```
>CHF
SONUMBER: NOW 89 07 20 8 AM
>
DN_OR_LEN:
> 6212000
OPTION:
> NSDN
NSDN:
> $
OPTION:
> $
```

SERVORD example for Multiple Position Hunt with Queue in no-prompt mode

```
> CHF $ 6212000 NSDN $ $
```

SERVORD example for deleting Multiple Position Hunt with Queue

The following SERVORD example indicates how Multiple Position Hunt with Queue deletes from a line with the DEO command. In this example, the MPH group modified in the CHF example has option NSDN deleted from the MPH group.

SERVORD example for Multiple Position Hunt with Queue in prompt mode

```
>DEO
SONUMBER: NOW 89 07 20 8 AM
>
DN_OR_LEN:
> 6212000
OPTION:
> NSDN
OPTION:
> $
```

SERVORD example for Multiple Position Hunt with Queue in no-prompt mode

```
> DEO $ 6212000 NSDN $
```

Non-Data Link Console Call Extension

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS27 and later versions

Requirements

Non-Data Link Console Call Extension has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

Non-Data Link Console Call Extension contains the three-way calling public (3WCPUB) announcement feature. This feature allows call extension from a non-data link attendant console (AC) when the non-data link console links to a DMS switch. The non-data link console is part of the customer premises system (CPS).

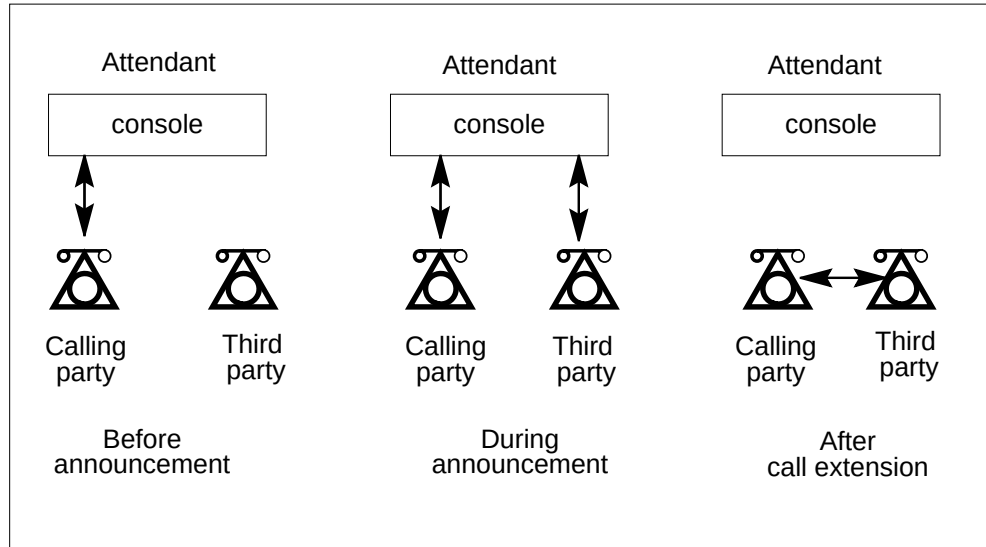
Operation

When the extension of a call from a non-data link console occurs in one of the following two modes:

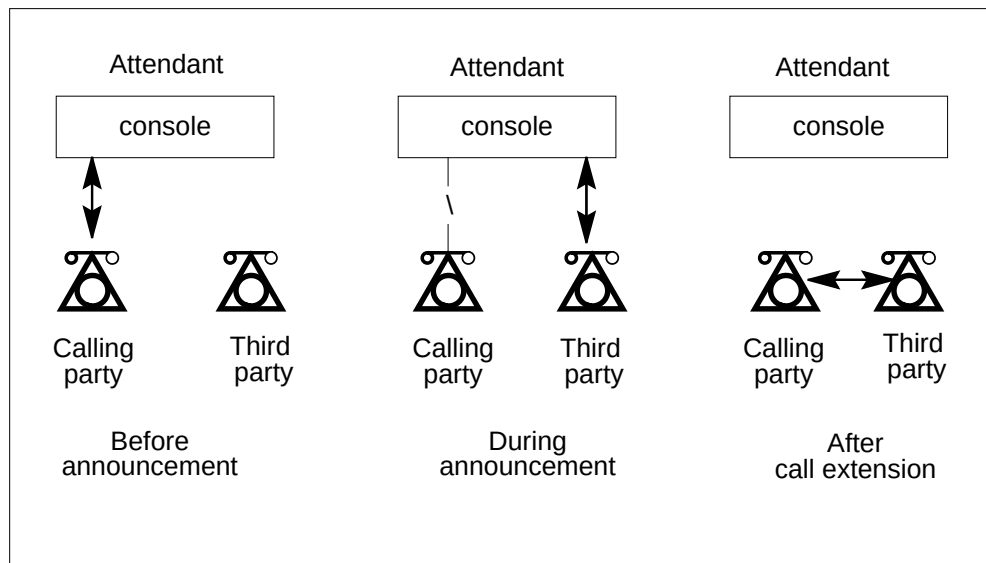
- Public announcement: connects all parties in the call extension after dialing is completed. Figure "Talking for public announcement" indicates the public announcement of a call extension.
- Private announcement: places the calling party on hold so the attendant can confer with the third party before bridging the parties together. Figure "Talking paths for private announcement" indicates the private announcement of a call extension.

Non-Data Link Console Call Extension (continued)

Talking for public announcement



Talking paths for private announcement



Translations table flow

Non-Data Link Console Call Extension does not affect translations table flow.

Limits

The following limits apply to Non-Data Link Console Call Extension :

- The SPLIT operation indicator (asterisk [*] or octothorpe [#]) is for the 3WCPUB feature for the lines with the 3WCPUB feature assigned. The

Non-Data Link Console Call Extension (continued)

indicator cannot be used as an access code for other features in the customer group.

- The DMS-100 switch does not support the multibutton electronic set (MET) version of the AT&T 50B Console CPS.
- You cannot assign line option 3WCPUB to a non-IBN line. For example, a Meridian business set (MBS) or plain old telephone service (POTS) line.
- For this feature to operate, field LOOPCON of table IBNFEAT (IBN Line Feature) must be at Y.
- If field LOOPCON is at N, a split operation cannot be specified for a 500 set. A public announcement of the purpose is always available for call extension.
- If field LOOPCON is at Y and the user dials the # or * keys, a private announcement of the purpose to extend a call can be performed.
- The system supports option 3WCPUB on line concentrating modules (LCM). The system does not support this option on line modules (LM).
- Answer supervision must be supplied for the Answer (ANS) light to work correctly.

Interactions

The 3WCPUB feature has the same interactions as the call transfer (CXR) feature. For a business set, refer to "MBS 3W Calling/XFER." For IBN lines, refer to "3-Way Conference/Transfer."

Activation/deactivation by the end user

Non-Data Link Console Call Extension that the attendant can activate for a public or private announcement.

To perform a public announcement of a call, the attendant at the console must complete the following steps.

Performing a public announcement

At your telephone

- 1 Make sure that the console received an incoming call.
Response:
The Attendant (ATND) loop lamp is on.
The incoming call identification (ICI) display displays the type of call.
- 2 Acknowledge the request to transfer the call.
Response:

Non-Data Link Console Call Extension (continued)

- None
- 3** Press the START key.
Response:
The CPS generates a flash. The flash transfers to the switch.
The switch returns the stutter dial tone to the console.
- 4** After dial tone returns, dial the third party.
Response:
None
- 5** When the third party answers, announce the call.
Response:
The Answer (ANS) loop light goes on.
- 6** Press the Release (RLS) key.
Response:
The attendant is not on the loop any longer.
The ICI display, ANS loop light, and ATND loop lamp go off.

Many methods can extend a call to an idle or busy station. Refer to the operator manual for the separate non-data link console. The following are several methods for extension:

- use of the RING key
- when an extended call rings and is not answered in 30 s
- if the calling party does not want to wait for the called party to answer the call
- if the calling party wants connection to another extension

To perform a private announcement of a call, the attendant at the console must complete the following steps.

Performing a private announcement***At your telephone***

- 1** Make sure that the console receives an incoming call.
Response
The ATND loop lamp is on.
The type of call appears on the ICI display.
- 2** Acknowledge the request to transfer the call.
Response:
None

Non-Data Link Console Call Extension (continued)

- 3** Press the SPLIT key.
Response:
The calling party is put on hold.
The SPLIT lamp is lit.
Dial tone is detected.
The CPS generates the flash to the DMS-100 switch. A special hexadecimal digit follows the flash. The special digit is an octothorpe (#) or an asterisk (*). The hardware of the console defines the special digit. When the CPS outputs the * or #, dial tone ends.
The system checks the special digit against the digit specified in option 3WCPU of the line in table IBNFEAT (IBN Line Feature).
Note: The operator can not notice the dial tone because of the short interval of the dial tone.
- 4** Dial the third party.
Response:
Dialed digit tones are heard.
- 5** The third party answers the call.
Response:
The DMS switch sends a flash to the console.
The Answer (ANS) loop lamp comes on.
- 6** Announce the call.
a If the called party accepts the call, proceed as follows:
1. Press the SPLIT key.
Response:
The system connects (bridges) the attendant, calling party and third party.
The SPLIT lamp goes off.
2. Announce that the system connects the parties.
Response:
None
3. Press the Release (RLS) key.
Response:
The PA lamp comes on.
The ATND and ANS loop lamps go off.
The system releases the attendant from the connection.

Non-Data Link Console Call Extension (continued)

- b** If the third party does not accept the call, proceed as follows:
1. Press the Cancel (CANCL) key.
Response:
The system releases the third party.
The system reconnects the attendant and the calling party.
The SPLIT lamp and ANS loop lamp go off.
 2. Announce that the called party is not available.
Response:
None
 3. Press the RLS key.
Response:
The PA lamp comes on.
The ATND and ANS loop lamps go off.
The system releases the attendant from the connection.

Billing

Non-Data Link Console Call Extension does not affect billing.

Station Message Detail Recording

Non-Data Link Console Call Extension does not affect Station Message Detail Recording.

Datafilling office parameters

Non-Data Link Console Call Extension does not affect office parameters.

Datafill sequence

Non-Data Link Console Call Extension adds the 3WCPU feature to table IBNFEAT.

Make sure that BCS28 or greater software is loaded. Make sure that the non-data link console has the correct equipment. Make sure that feature packages NTX100 and NTX877 are loaded in the switch.

Datafill requirements for Non-Data Link Console Call Extension

Table	Purpose of table
IBNFEAT	IBN Line Feature table. This table lists line features assigned to the IBN lines in table IBNLINES.
Note: Enter data in this table through SERVORD. This document does not have a datafill procedure or example. Refer to "SERVORD" for an example of the use of SERVORD to datafill this table.	

Non-Data Link Console Call Extension (continued)

Tools for verifying translations

Non-Data Link Console Call Extension does not use tools for verifying translations.

SERVORD

Use SERVORD to add the Non-Data Link Console Call Extension to table IBNFEAT. The Non-Data Link Console Call Extension contains the three-way calling public (3WCPUB) announcement feature. The 3WCPUB feature to table IBNFEAT.datafill table IBNFEAT. This feature allows call extension from a non-data link AC when the system links the non-data link console to a DMS switch.

Table IBNFEAT lists line features assigned to the IBN lines in table IBNLINES

SERVORD limits

The following SERVORD limits apply to Non-Data Link Console Call Extension.

Option 3WCPUB is not compatible with the following options:

- FIG (flash ignore)
- NDC (no double connect)
- BC (bearer capability)

You can add or delete option 3WCPUB from an IBN line. This document supplies the following examples:

- Adding option 3WCPUB to a line
- Deleting option 3WCPUB from a line

SERVORD prompts

The SERVORD prompts used to assign Non-Data Link Console Call Extension to an option appears in the following table.

SERVORD prompts for Non-Data Link Console Call Extension (Sheet 1 of 2)

Prompt	Valid input	Explanation
OPTION	3WCPUB	Specifies the option you assign. Enter 3WCPUB.

Non-Data Link Console Call Extension (continued)

SERVORD prompts for Non-Data Link Console Call Extension (Sheet 2 of 2)

Prompt	Valid input	Explanation
LOOPCN	Y, N	Specifies if you apply option 3WCPUB to a loop console. Enter Y or N.
SPLITKEY	STAR, OCT	Correct if option LOOPCON is at Y. Identifies the key (asterisk (*) or octothorpe (#)) you use to initiate the split operation for line option 3WCPUB. Enter STAR or OCT.

Note: The system enters data in table IBNFEAT when you assign Non-Data Link Console Call Extension through SERVORD.

SERVORD example for assigning Non-Data Link Console Call Extension

How you use ADO or DEO commands to assign Non-Data Link Console Call Extension to a line appears in the following SERVORD examples.

SERVORD example for Non-Data Link Console Call Extension in prompt mode

```

S0:
> ADO
SONUMBER:  NOW 88 07 08 AM
>
DN_OR_LEN:
> 6218017
OPTION:
> 3WCPUB
LOOPCON:
> Y
SPLITKEY:
> STAR:
OPTION:
>$

```

SERVORD example for Non-Data Link Console Call Extension in no-prompt mode

```
> ADO $ 6218017 3WCPUB Y STAR $
```

Non-Data Link Console Call Extension (end)

SERVORD example for Non-Data Link Console Call Extension in prompt mode

```
SO:  
> DEO  
SONUMBER:  NOW 88 08 08 AM  
>  
DN_OR_LEN:  
> 6218017  
OPTION:  
> 3WCPUB  
OPTION:  
> $
```

SERVORD example for Non-Data Link Console Call Extension in no-prompt mode

```
> DEO $ 6218017 3WCPUB $
```

Off-hook Queuing

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS10 and later versions

Requirements

Off-hook Queuing requires the following to operate:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The Off-hook Queuing (OHQ) feature allows specified calls that cannot complete, to wait off-hook for an idle trunk. These calls cannot complete because inexpensive, outgoing trunks are not available. The system cannot locate an idle trunk in the inexpensive route set when automatic route selection encounters a queue head in the route list. Inexpensive routes are all routes before the queue head. When an outgoing trunk becomes available, the call continues in a normal method.

Operation

A subscriber can make a call when outgoing trunks in the inexpensive route list are not available. When this event occurs, the system places the call in the off-hook queue. The calling party receives off-hook queuing tone. If the calling party remains off-hook, the call remains in the off-hook queue for 2 s to 60 s. If the calling party goes on-hook, the connection breaks.

Note: The off-hook queuing tone is a single 1-s burst of 440-Hz tone at -13 dBm.

A trunk can become idle when the call is in the off-hook queue. If this condition occurs, the system removes the call from the queue. The call continues normally. If the call is in the off-hook queue when the off-hook queue timer expires, the system removes the call from the queue.

Note: The length of time a call remains in an off-hook queue is set for each route. The length can range from 2 s to 60 s in intervals of 1 s.

The system searches the route list that remains for an idle trunk on which to send the call. The elements that remain include any inexpensive routes that do

Off-hook Queuing (continued)

not allow OHQ and any expensive routes. The operating company can enter data to make sure the call does not transfer to expensive route list elements. If the system locates an idle trunk, the call continues normally. If the system does not locate an idle trunk, the call does not receive circuit treatment.

Translations table flow

Off-hook Queuing does not affect translations table flow.

Limits

The following limits apply to Off-hook Queuing:

- the system abandons the OHQ feature if the line or incoming trunk goes on-hook.
- the system abandons the OHQ feature if the line flashes the hookswitch.
- the average OHQ wait time for the route list must not exceed the threshold. The threshold can range from 2 s to 60 s.
- the average wait time must not exceed the OHQ wait time entry. The DMS switch calculates the average wait time internally. To estimate the average wait time, the switch divides the average number of calls in the queue by the average call arrival rate.
- the activation of OHQ must not occur on both ends of a trunk group. An increase in glare occurs if OHQ is active at both ends of the group.

Interactions

The following section describes the interactions between Off-hook Queuing and other functionalities.

The Off-hook Queuing feature has the following interactions with other IBN features:

- overlap outputting is not compatible with OHQ.
- a station can have OHQ and call-back queuing (CBQ). The OHQ functionality has priority over CBQ.
- a call can time out when the call waits in the off-hook queue. This call can use an expensive route to complete. When these conditions occur, the system does not generate expensive route warning tone.
- when a call does not receive circuit tone after a search of the whole route list fails, the caller can activate CBQ.
- the system allows OHQ on inexpensive routes. If an operating company activates OHQ and expensive route warning tone for a route list element, the system does not allow OHQ. This condition is a datafill error.

Off-hook Queuing (continued)

- the OHQ does not apply for different types of the call forward feature.
- the OHQ does not apply if night service is in effect and the night service route is to another switch.
- the OHQ does not apply to busy hunt groups routed to another switch or a directory number that another switch serves.
- the system does not call wait a station that calls an off-hook queued station.
- a station that calls an off-hook queued station can activate ring again.

Activation/deactivation by the end user

Off-hook Queuing does not require activation or deactivation by the end user.

Billing

Off-hook Queuing does not affect billing.

Station Message Detail Recording

Off-hook Queuing does not affect Station Message Detail Recording.

Datafilling office parameters

The office parameters for Off-hook Queuing appear in the following table. Refer to *Office Parameters Reference Manual* for additional information about office parameters.

Office parameters by Off-hook Queuing

Table name	Parameter name	Explanation and action
OFCENG	AVG_NUM_TGS_PER_OHCBQCALL	Specifies the average number of trunk groups involved in CBQ or OHQ. Enter a value from 0 to 32. The default value is 0.
OFCENG	NUMOHCBQTRANSBLKS	Specifies the number of transaction blocks required for the OHQ and CBQ features. Enter a value from 0 to 1169. The default value is 0.

Off-hook Queuing (continued)

Datafill sequence

The tables that require datafill to activate Off-hook Queuing appear in the following table. The tables appear in the correct entry order.

Datafill tables required for Off-hook Queuing

Table	Purpose of table
CLLI	Common Language Location Identifier. This table identifies the far end of each announcement, tone, trunk group, test trunk, national milliwatt test lines, and service circuit.
STN	Special Tone. Tones that require trunk cards require this table.
IBNRTE	IBN Route. This table contains specified route lists. A route reference index number identifies these route lists.
NCOS	Network Class of Service. This table contains network class of service (NCOS) numbers. These numbers are assigned to the following: • attendant consoles • IBN or Subscriber Services (RES) stations • incoming sides of two-way IBN trunk groups • authorization codes • customer groups

Datafilling table CLLI

Table CLLI (Common Language Location Identifier) contains codes that identify each announcement, tone, or trunk group. Enter table CLLI to define the off-hook queuing tone.

Datafill for Off-hook Queuing for table CLLI appears in the following table. The fields that apply to Off-hook Queuing appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CLLI

Field	Subfield or refinement	Entry	Explanation and action
CLLI		OHQT	Common Language Location Identifier. This field specifies 1 to 16 characters to identify the far end of each announcement, tone, or trunk group. Enter OHQT for off-hook queuing tone.

Off-hook Queuing (continued)**Datafill example for table CLLI**

Sample datafill for table CLLI appears in the following example.

MAP example for table CLLI

CLLI	ADNUM	TRKGRSIZ	ADMININF
OHQT	358	10	OFF_HOOK_QUEUING_TONE

Datafilling table STN

Table STN (Special Tone) contains information for tones that require trunk cards. Enter table STN to define the location and the maximum number of connections that can occur each tone circuit. The tones that require trunk cards require this table. The ERWT tone is an example of a tone that requires trunk cards.

Datafill for Off-hook Queuing for table STN appears in the following table. The fields that apply directly to Off-hook Queuing appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table STN

Field	Subfield or refinement	Entry	Explanation and action
SK		see subfields	Special Tone Key. This field contains subfields TONE and MEMBER.
	TONE	OHQT	Tone. This subfield specifies the pseudo fixed code assigned to the tone trunk circuit in table CLLI. Enter OHQT.
	MEMBER	0 to 999	Member Number. This subfield specifies the member number of the tone trunk circuit. Enter a value from 0 to 999.
CARDCODE		3X68AC	Card Code. This subfield specifies the product engineering code (PEC) of the tone trunk circuit. Enter 3X68AC.

Datafill example for table STN

Sample datafill for table STN appears in the following example.

Off-hook Queuing (continued)

MAP example for table STN

SK	TMTYPE	TMNO	TMCKTNO	CARDCODE	MAXCONN	TRAFSNO
OHQT 0	MTM	4	13	3X68AC	15	0

Datafilling table IBNRTE

Table IBNRTE (IBN Route) contains specified route lists. A route reference index number identifies these route lists.

Check the data in table IBNRTE to make sure the system used the following selectors with the OHQ feature:

- QH
- S
- N
- OW
- VFG

The system uses selector QH with off-hook and call-back queuing to separate the route list in inexpensive and expensive routes. The OHQ waiting time associates with this selector. To use selectors S, N, OW, and VFG, set subfield OHQ to Y if you want off-hook queuing. Set subfield EXP to N when field OHQ is set to Y.

Off-hook Queuing (continued)

Datafill for Off-hook Queuing for table IBNRTE appears in the following table. The fields that apply to Off-hook Queuing appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table IBNRTE

Field	Subfield or refinement	Entry	Explanation and action
RTELIST		see subfields	Route List. This field contains the following subfields: • IBNRTESEL • OHQ • CBQ • EXP • MBG • CLLI
	IBNRTESEL	S	IBN Route Selector. This subfield specifies the route selector required when the digits dialed are the same as the digits outpulsed.
	OHQ	Y	Off-hook Queuing. This subfield specifies if off-hook queuing is active.
	CBQ	Y or N	Call Back Queuing. This subfield specifies if the system applies an expensive route and an expensive route warning tone.
	EXP	N	Expensive. This subfield specifies if the route is an expensive route.
	MBG	N	Multi-switch Business Group. This subfield specifies the multi-business group.
	CLLI	assigned code	Common Language Location Identifier. This subfield specifies the name of the trunk to route to complete the translations. The name must appear in table CLLI before this table can reference the name. Enter the code assigned in Table CLLI to which the system routes the translation.

Datafill example for table IBNRTE

Sample datafill for table IBNRTE appears in the following example.

Off-hook Queuing (continued)

MAP example for table IBNRTE

RTE	RTELIST
6	(VFG N N N REGOW1 0) (S Y Y N N REGIBN2WTIE)\$

Datafilling table NCOS

Table NCOS (Network Class of Service) contains network class of service (NCOS) numbers assigned to the following:

- attendant consoles
- IBN or Subscriber Services (RES) stations
- incoming sides of two-way IBN trunk groups
- authorization codes
- customer groups

Enter data in table NCOS to assign the OHQ option.

Datafill for Off-hook Queuing for table NCOS appears in the following table. The fields that apply to Off-hook Queuing appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table NCOS

Field	Subfield or refinement	Entry	Explanation and action
NCOSOPTN		OHQ	Network Class of Service Options. This field specifies a vector of a maximum of 17 option entries for the NCOS number. Enter OHQ for off-hook queuing.
If NCOSOPTN is set to OHQ, subfields OHQPRIOR and OHQNOTICE require datafill.			
	OHQPRIOR	0 or 1	Off-hook Queuing Priority. This subfield specifies the off-hook queuing priority. If the assignment of NCOS to lines occurs, enter 0. If the assignment of NCOS to trunks occurs, enter 1.
	OHQNOTICE	TONE_OHQ, ANNCMENT, or SILENCE	Off-hook Queuing Notice. This subfield specifies the type of notice the system provides to a caller when the system offers off-hook queuing. Enter TONE_OHQ (OHQ tone), ANNCMENT (OHQ announcement), or SILENCE (no notice).

Off-hook Queuing (end)

Datafill example for table NCOS

Sample datafill for table NCOS appears in the following example.

MAP example for table NCOS

CUSTGRP	NCOS	NCOSNAME	LSC	TRAFSNO	OPTIONS
COREREGA	0	NCCORA	0	0	(OHQ 1 TONE_OHQ) (CBQ 3 3 N 1) \$

Tools for verifying translations

Off-hook Queuing does not use tools for verifying translations.

SERVORD

Off-hook Queuing does not use SERVORD.

OHQ, CBQ for OUTWATS VFG

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS11 and later versions

Requirements

To operate, OHQ, CBQ for OUTWATS VFG has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The OHQ, CBQ for OUTWATS VFG feature allows off-hook queuing (OHQ) and call-back queuing (CBQ) on OUTWATS virtual facility groups (VFG). This ability is only available in BCS10 and later versions.

Note: See “IBN Class 5 Pseudo OUTWATS” for a description of the OUTWATS feature.

Operation

To access the OHQ, CBQ for OUTWATS VFG feature, you must dial an access code. A single access code is available for all zones or for each zone.

Translations table flow

The OHQ, CBQ for OUTWATS VFG feature does not affect translations table flow.

Limits

The following limits apply to OHQ, CBQ for OUTWATS VFG:

- Trunk groups entered with selector TTTR or TTTT in table IBNXLA cannot use the CBQ option.
- Code restriction levels (CRL) impose limits on the called number. The CRL do not impose limits on the access code.
- A VFG cannot change from SIZE to USES in field VFGTYPE of table VIRTGRPS (Virtual Facility Groups) if the system allows queuing on a

OHQ, CBQ for OUTWATS VFG (continued)

route. The change of field VFGTYPE from USES to SIZE does not affect queuing.

- Queuing cannot occur on either end of a two-way VFG.

Interactions

The OHQ, CBQ for OUTWATS VFG feature does not have functionality interactions.

Activation/deactivation by the end user

The OHQ, CBQ for OUTWATS VFG feature does not require activation or deactivation by the end user.

Billing

The OHQ, CBQ for OUTWATS VFG feature does not affect billing.

Station Message Detail Recording

The OHQ, CBQ for OUTWATS VFG feature does not affect Station Message Detail Recording.

Datafilling office parameters

The OHQ, CBQ for OUTWATS VFG feature does not affect office parameters.

Datafill sequence

The tables that require datafill to activate OHQ, CBQ for OUTWATS VFG appear in the following table. The tables appear in the correct entry order.

Datafill requirements for OHQ, CBQ for OUTWATS VFG

Table	Purpose of table
VIRTGRPS	Virtual Facility Group Table
IBNRTE	IBN Route Table
LINEATTR	Line Attribute Table
IBNXLA	IBN Translation Table
ZONEORDR	Zone Order Table
OWATZONE	OUTWATS Zone Table

OHQ, CBQ for OUTWATS VFG (continued)**Datafilling table VRTGRPS**

Table VIRTGRPS (Virtual Facility Groups) provides a method to eliminate loop-around trunks. Loop-around trunks activate IBN inward wide area telephone service (INWATS) and outward wide area telephone service (OUTWATS). Loop-around trunks provide equal access capabilities.

Enter data in table VIRTGRPS to define all the VFGs for the OHQ, CBQ for OUTWATS VFG feature.

Datafill for OHQ, CBQ for OUTWATS VFG for table VRTGRPS appears in the following table. The fields that apply to OHQ, CBQ for OUTWATS VFG appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table VRTGRPS

Field	Subfield or refinement	Entry	Explanation and action
	VFGTYPE	SIZE or USES	Virtual Facility Group Type. This subfield specifies the virtual facility group type. Enter SIZE if this entry is the first entry for the VFG. Enter USES if this entry is not the first entry.
	INCTYPE	POTS	Incoming Type. This subfield specifies the incoming type. Enter POTS when the call enters the POTS translation environment.

Datafill example for table VRTGRPS

Sample datafill for table VRTGRPS appears in the following example.

MAP example for table VRTGRPS

KEY	DATA	OPTIONS
EWAT1	SIZE 1 POTS 6197202705 21 N \$	

Datafilling table IBNRTE

Table IBNRTE (IBN Route) contains specified route lists. A route reference index number identifies these route lists. Enter data in table IBNRTE to route OUTWATS calls to a VFG and to assign OHQ and CBQ to the route.

Datafill for OHQ, CBQ for OUTWATS VFG for table IBNRTE appears in the following table. The fields that apply to OHQ, CBQ for OUTWATS VFG

OHQ, CBQ for OUTWATS VFG (continued)

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

Datafilling table IBNRTE

Field	Subfield or refinement	Entry	Explanation and action
RTELIST		see subfields	Route List. This field contains many subfields. This feature affects subfields IBNRTSEL, OHQ, CBQ, and RTETYPE.
	IBNRTSEL	OW	IBN Route Selector. This subfield specifies the IBN route selector. Enter OW.
	OHQ	Y or N	Off-hook Queuing. This subfield specifies if off-hook queuing can occur on this route. Enter Y or N.
	CBQ	Y or N	Call-back Queuing. This subfield specifies if call-back queuing can occur on this route. Enter Y or N.
	RTETYPE	S, V, or T	Route Type. This subfield specifies the route type. Enter S, V, or T.

Datafill example for table IBNRTE

Sample datafill for table IBNRTE appears in the following example.

MAP example for table IBNRTE

RTE	RTELIST
11	(OW Y N N 10 V EWAT1 10)\$

Datafilling table LINEATTR

Table LINEATTR (Line Attribute) contains the line attributes for each line. Enter table LINEATTR to make sure the correct lines have the OUTWATS attribute.

OHQ, CBQ for OUTWATS VFG (continued)

Datafill for OHQ, CBQ for OUTWATS VFG for table LINEATTR. The fields that apply to OHQ, CBQ for OUTWATS VFG appear in this 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
LCC		OWT	Line Class Code. This field specifies the line class code assigned to the line attribute index. Enter OWT.

Datafill example for table LINEATTR

Sample datafill for table LINEATTR appears in the following example.

MAP example for table LINEATTR

```

LNATTIDX  LCC  CHGCLSS  COST  SCRNL  LTG  STS  PRTNM
LCANAME  ZEROMPOS  TRAFSNO
MRSA  SFC  LATANM  MDI  IXNAME  DGCLNAME  FANIDIGS
RESINF  OPTIONS
-----
7          OWT  NONE    NT    NSCR    0    619    OWT1
LOW9      NONE      0
NIL  NILSFC  NILLATA  0    NIL      NIL    00      N
$

```

Datafilling table IBNXLA

Table IBNXLA (IBN Translation) stores the data for the digit translation of calls from any of the following:

- an IBN station
- attendant console
- incoming side of a two-way IBN trunk group

Data in table IBNXLA must include the access code(s) for the OHQ, CBQ for OUTWATS VFG feature.

Datafill for OHQ, CBQ for OUTWATS VFG for table IBNXLA appears in the following table. The fields that apply to OHQ, CBQ for OUTWATS VFG

OHQ, CBQ for OUTWATS VFG (continued)

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

Datafilling table IBNXLA

Field	Subfield or refinement	Entry	Explanation and action
	TRSEL	ROUTE	Translation Selector. This subfield specifies the translation selector ROUTE. Enter ROUTE.
	TABCLLI	T	Table or CLLI. This subfield specifies the table or CLLI selector. Enter the table name selector T.
	TABID	IBNRTE	Table Identifier. This subfield specifies the table to which translation must route. Enter IBNRTE.

Datafill example for table IBNXLA

Sample datafill for table IBNXLA appears in the following example.

MAP example for table IBNXLA

KEY										RESULT			
BNRFEAT	0	ROUTE	Y	Y	Y	0	Y	2	2	POTS	Y	L	0 0

Datafilling table ZONEORDR

Table ZONEORDR (Zone Order) contains the zones for each NPA. The entry of data in table ZONEORDR must occur to define the zones for each NPA.

Datafill for OHQ, CBQ for OUTWATS VFG for table ZONEORDR appears in the following table. The fields that apply to OHQ, CBQ for OUTWATS

OHQ, CBQ for OUTWATS VFG (continued)

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

Datafilling table ZONEORDR

Field	Subfield or refinement	Entry	Explanation and action
SVGNPA		NPA	Serving NPA. This field specifies the 3-digit serving or home NPA. Enter the serving NPA.
ZONESETS		OUTWATS zones	Zone Sets. This field specifies the order of the OUTWATS zones in the serving NPA. Enter a maximum of 13 OUTWATS zones in ordered groups. Spaces separate the groups.

Datafill example for table ZONEORDR

Sample datafill for table ZONEORDR appears in the following example.

MAP example for table ZONEORDR

SVGNPA	ZONESETS
407	(0) (12345) (67) (8) (9) (A) (B) (C) \$

Datafilling table OWATZONE

Table OWATZONE (OUTWATS Zone) is for end users that make many long-distance calls. Table OWATZONE is available in geographical areas called zones. Operating companies purchase as many lines for each zone as necessary. Enter data in table OWATZONE to assign zones to each set of digits associated with each home or serving NPA.

Datafill for OHQ, CBQ for OUTWATS VFG for table OWATZONE appears in the following table. The fields that apply to OHQ, CBQ for OUTWATS

OHQ, CBQ for OUTWATS VFG (end)

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

Datafilling table OWATZONE

Field	Subfield or refinement	Entry	Explanation and action
OWATCODE		see subfields	OUTWATS Code. This field contains subfields SVGNPA and DIGITS.
	SVGNPA	NPA	Serving NPA. This subfield specifies the 3-digit serving or home NPA. Enter the serving NPA.
	DIGITS	digital	Digits. This subfield specifies the digits that define the zone. Enter a maximum of 18 digits.
ZONE		zone number	OUTWATS Zone. This field specifies the OUTWATS zone number assigned to the key OWATCODE. Enter the zone number.

Datafill example for table OWATZONE

Sample datafill for table OWATZONE appears in the following example.

MAP example for table OWATZONE

OWATCODE	ZONE
407	201 1

Tools for verifying translations

The OHQ, CBQ for OUTWATS VFG feature does not use tools for verifying translations.

SERVORD

The OHQ, CBQ for OUTWATS VFG feature does not use SERVORD.

Personal Call Screening of Call Forwarding

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: MDC00020

Release applicability

DMSCCM04 and later versions

Requirements

This document contains the datafill information for this functionality. This feature also can require software or hardware.

Description

Personal Call Screening (PCS) is an option of Call Forwarding (CF). The PCS option allows the remote CF station to transfer a forwarded call back to the CF base station. This action overrides the call forward. The three types of PCS calls are active CF transfer, direct transfer, and origination. Active call transfer occurs when the system performs the following actions. The system forwards a call through one or more CF base stations and transfers the call back to a CF base. Direct transfer occurs when a call that arrived directly to a CF remote station transfers back to a CF base station. Origination occurs when PCS originates a call from a remote station to a CF base station.

The base station is the station that corresponds to the dialed number. The remote station is the number to which the system forward the calls. For a call-forwarding chain, the immediate CF base station is the station that earlier forwarded the call. Direct transfer and origination PCS calls transfer to the immediate base only. Only the default capability can transfer calls directly to any CF base in a CF chain. See item 4 under "Operation" in this feature description for information on the default capability.

For PCS call attempts to a base station that has the Call Forward Don't Answer (CFD) or Call Forward Busy (CFB), the CFD or CFB determines call termination. The line state of the CFD or CFB base station determines the ability to terminate the call.

Operation

The PCS of Call Forwarding can provide the flexibility to handle CF chains in one of four methods. Datafill determines the method used. The operating

Personal Call Screening of Call Forwarding (continued)

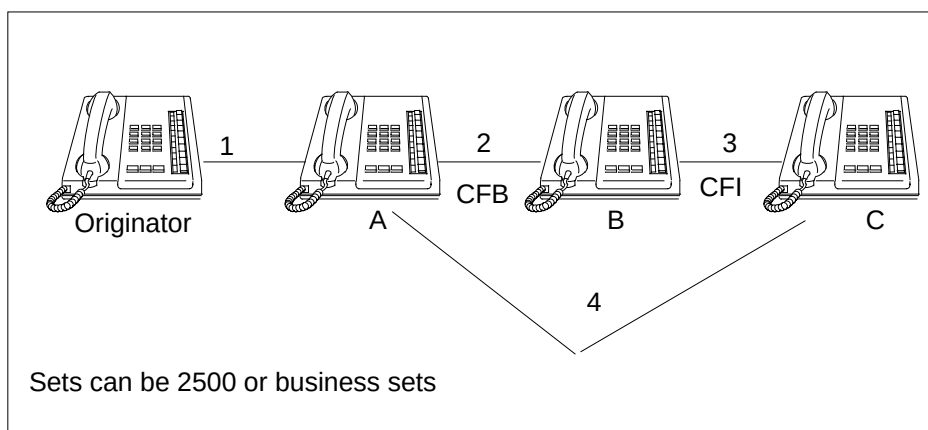
company chooses one of four options to determine PCS functionality for a customer group. The PCS options appear in the following list:

1. **DIALDSET.** Only the dialed CF base can access PCS. The dialed base is the set dialed during the call transfer. The system returns treatment if the call cannot terminate to the dialed CF base.
2. **PCSFIRST.** Action between PCS and Multiple Call Forwarding is available to the dialed base only. The PCS takes priority over Multiple Call Forwarding Active (MultiCFA) on the first CF base station to which the call transfers. All following CF base stations in the CF chain use only MultiCFA and Multiple Call Forwarding Busy/Don't Answer (MultiCFA/B/D) capabilities. See figure 1.

Note: The MultiCFA allows the system to forward more than one call through a CF base station. Call Forwarding Universal (CFU), Call Forwarding Intragroup (CFI), and Call Forwarding Fixed (CFF) use MultiCFA.

In figure 1, set A appears as busy with CFB active. The MultiCFB takes priority over PCS when set A, the dialed base, has CFB or CFD. The PCS takes priority when set A has CFU, CFI, or CFF.

PCS interaction with Multiple Call Forwarding



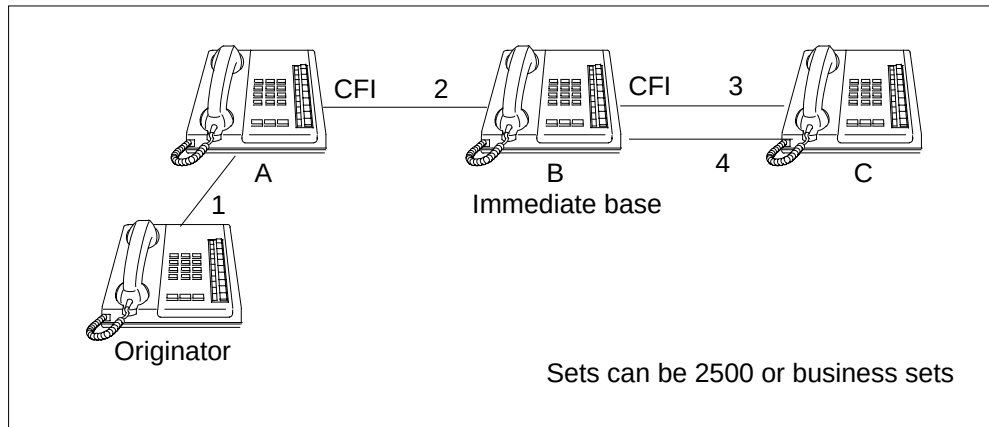
3. **IMCFBASE.** Only the immediate CF base can access PCS. Calls to CF bases other than the immediate CF base can use MultiCFA/B/D capabilities. If the immediate CF base has CFB and the station is busy, the MultiCFB capability can apply. A CF chain with the originator calling set A appears in figure 2. Sets A and B both have CFI and the call forwards through to set C. Set C forwards the call back to set B, the immediate CF base.

Personal Call Screening of Call Forwarding (continued)

This functionality applies to CFU, CFF or CFI base stations. This functionality does not apply to CFB and CFD for both forwarded and direct calls. For example, an attempt to transfer a call to other than the immediate previous CF base can occur. The CF base to which the termination attempt occurs can have CFB or CFD, like set A. For this example, call termination occurs if that station is idle.

4. No datafill required (default). All CF chain members, starting with the dialed base, use PCS and MultiCFA/B/D functionality. *This is the default if an option is not selected.* The default capability allows direct transfers to any CF base in a CF chain.

2 PCS to immediate CF base only



Note 1: The following condition applies to PCS options 1, 2, and 3. Direct transfer and origination PCS calls transfer to the immediate base only. Only the default capability can transfer calls directly to any CF base in a CF chain.

Note 2: The PCS of Call Forwarding allows remote stations that are active agents of Uniform Call Distribution (UCD) or Automatic Call Distribution (ACD) to transfer the forwarded call. The call can transfer back to a base station in the CF chain. The PCS option chosen determines this action.

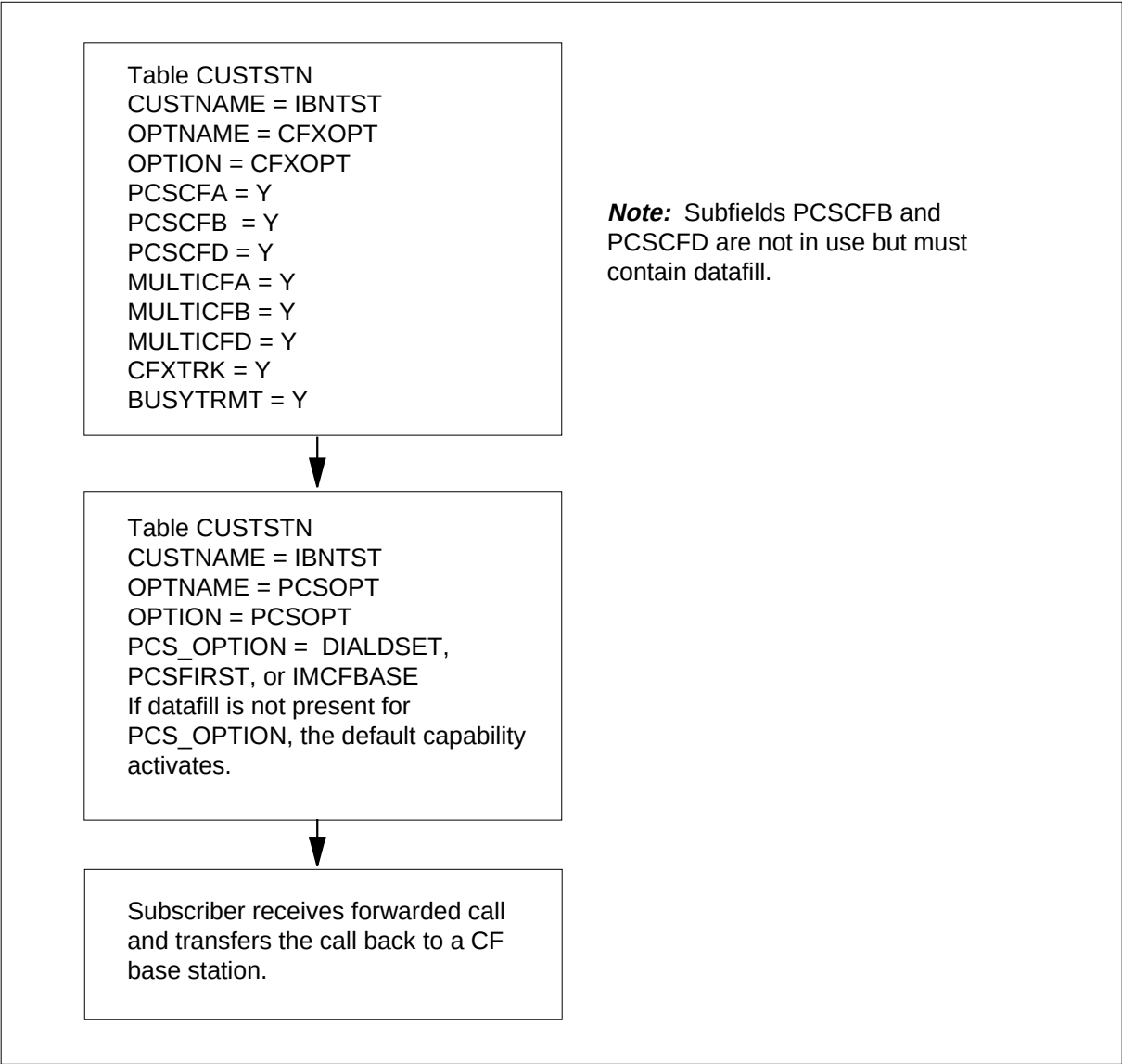
Note 3: If a transfer to a CFB base station occurs and that station is busy, the call can forward with MultiCFB. This action can occur if MultiCFB in table CUSTSTN contains the CFB customer group of the base station. The last remote CF station in the CF chain must be able to accept another call. An example of this station is Key Short Hunt (KSH).

Translations table flow

The Personal Call Screening of Call Forwarding translation process appears in the following flowchart.

Personal Call Screening of Call Forwarding (continued)

Table flow for Personal Call Screening of Call Forwarding



Datafill for PCS of Call Forwarding with the DIALDSET option appears in the following table.

Datafill example for Personal Call Screening of Call Forwarding

Datafill table	Example data
CUSTSTN	IBNTST CFXOPT CFXOPT Y Y Y Y Y Y Y Y
CUSTSTN	IBNTST PCSOPT PCSOPT DIALDSET

Personal Call Screening of Call Forwarding (continued)

Limits

The following limits apply to Personal Call Screening of Call Forwarding:

- The system does not start Personal Call Screening (PCS) when stations in the call forwarding chain have options IECFB or IECFD assigned.
- The UCD or ACD agents interact with the PCS according to the limits of the chosen PCS option.
- An overflow route or directory number (DN) cannot perform a PCS origination or transfer.
- The PCS takes priority over Multiple Call Forwarding Active (MultiCFA) for CFU, CFF, and CFI.
- MultiCFD takes priority over PCSCFD (DIALDSET), and the system forwards the call.
- PCSCFB (DIALDSET) takes priority over MultiCFB, and the system does not forward the call. The system returns treatment if the call can not terminate.
- All CF members of the CF chain must be in the same customer group for PCS to function.
- The PCS does not work with the Customer Group Transparency feature. This feature allows transparent feature operation across customer-group boundaries.
- The PCS works in a single central-office node. The system does not allow trunk connections in the CF chain.

Interactions

The following paragraphs describe the actions between Personal Call Screening of Call Forwarding and other functionalities.

Call Forwarding Busy

The PCS only overrides call forwarding and terminates on a CF base station. This condition does not allow PCS to terminate calls to a busy CFB base station.

Call Forwarding Don't Answer

The PCS cannot terminate on CFD base stations. The CFD base stations are idle. The PCS functionality is not necessary.

Conference calls

Conference calling (CNF) is not compatible with PCS.

Personal Call Screening of Call Forwarding (continued)

Hunt groups

The PCS transfers or originations only work with a hunt group in the following condition. The hunt group must be the last CF remote station in the CF chain.

Key Short Hunt groups

Key Short Hunt (KSH) group members can perform PCS originations or transfers in the following condition. The set on which the KSH member resides must be the last CF remote station in the CF chain.

Multiple Appearance Directory Number groups

The PCS works with multiple call arrangement (MCA) and single call arrangement (SCA) Multiple Appearance Directory Number (MADN) groups in the following condition. A member must be the last CF remote station in the CF chain.

MADN and KSH interaction

The MADN group members that are not primary can perform PCS in the following condition. The primary MADN group members of these groups must be part of a KSH group.

Queued features

The PCS can work with queued features like UCD, ACD, single-line queuing (SLQ) or Attendant Console in the following condition. The queued feature must be the last remote station in the CF chain.

The PCS interaction with queued features is present only for PCSOPT options that datafill specifies in table CUSTSTN.

Three-Way Calling

The PCS does not work if callers attempt a three-way call transfer to a station on another CF chain. When this condition occurs, standard call forwarding applies.

Trunk calls

The PCS can function with an incoming trunk call. The system can forward the incoming trunk connection through a CF chain to a CF remote station. The CF remote station can transfer the caller with PCS according to the type of PCS option that is active.

Activation/deactivation by the end user

The PCS of Call Forwarding does not require activation or deactivation by the end user.

Personal Call Screening of Call Forwarding (continued)

Billing

The PCS of Call Forwarding does not affect billing.

Station Message Detail Recording

The PCS of Call Forwarding does not affect Station Message Detail Recording.

Datafilling office parameters

The PCS of Call Forwarding does not affect office parameters.

Datafill sequence

The table that requires datafill to implement PCS of Call Forwarding appears in the following table.

Datafill requirements for Personal Call Screening of Call Forwarding

Table	Purpose of table
CUSTSTN	Customer Group Station Option. This table contains the list of station options assigned to each customer group.

Datafilling table CUSTSTN

The option CFXOPT in table CUSTSTN provides the ability to turn on:

- the PCS and MultiCFA for CFU
- the CFF, CFI and MultiCFB/D for CFB and CFD

Datafill for PCS of Call Forwarding for table CUSTSTN appears in the following table. The fields that apply to Personal Call Screening of Call Forwarding appear in this table. Refer to the data schema section of this document for a description of the other fields.

Note 1: The default option, PCS and MultiCFB/D for all CF chain members, does not require datafill.

Personal Call Screening of Call Forwarding (continued)

Note 2: Subfields PCSCFB and PCSCFD of option CFXOPT are not in use. The PCS cannot terminate on a busy CFB station. An idle CFD station does not require PCS.

Datafilling table CUSTSTN (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		alphanumeric	Customer group name. Enter the name of the customer group.
OPTNAME		CFXOPT	Option name. Enter CFXOPT to turn on call forwarding options.
OPTION		see subfield	Option. This field contains subfield OPTION.
	OPTION	CFXOPT	Option. Enter CFXOPT and enter data for the following refinements.
	PCSCFA	Y or N	PCS call forwarding active. Enter Y to enable PCSCFA. Enter N to disable PCSCFA.
	PCSCFB	Y or N	PCS call forwarding busy. This subfield is not in use. Enter Y or N to move to the next subfield.
	PCSCFD	Y or N	PCS call forwarding don't answer. This subfield is not in use. Enter Y or N to move to the next subfield.
	MULTICFA	Y or N	Multiple call forwarding active. Enter Y to enable MULTICFA. Enter N to disable MULTICFA.
	MULTICFB	Y or N	Multiple call forwarding busy. Enter Y to enable MULTICFB. Enter N to disable MUTICFB.
	MULTICFD	Y or N	Multiple call forwarding don't answer. Enter Y to enable MULTICFD. Enter N to disable MULTICFD.
	CFXTRK	Y or N	Call forwarding transfer trunk. Enter Y to enable CFXTRK. Enter N to disable CFXTRK.
	BUSYTRMT	Y or N	Busy treatment. Enter Y to enable BUSYTRMT. Enter N to disable BUSYTRMT.
CUSTNAME		alphanumeric	Customer group name. Enter the name of the customer group.

Personal Call Screening of Call Forwarding (end)

Datafilling table CUSTSTN (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
OPTNAME		PCSOPT	Option name. Enter the name of the option, PCSOPT.
OPTION		see subfield	Option. This field contains subfield OPTION.
	OPTION	PCSOPT	Option. Enter the name of the option, PCSOPT. Enter data in refinement PCSTYPE.
	PCS_OPTION	DIALDSET, PCSFIRST, IMCFBASE	PCS option. Enter one of the PCS options. The DIALDSET indicates PCS to the dialed CF base only. The PCSFIRST indicates PCS and MultiCFA/B/D interaction to the dialed CF base only. All following CF base stations in the CF chain use only the MultiCFA/B/D capability. The IMCFBASE indicates PCS to the immediate CF base only.

Datafill example for table CUSTSTN

Sample datafill for table CUSTSTN appears in the following example.

MAP example for table CUSTSTN

CUSTNAME	OPTNAME	OPTION
IBNTST	CFXOPT	CFXOPT Y Y Y Y Y Y Y Y
IBNTST	PCSOPT	PCSOPT DIALDSET

Tools for verifying translations

Personal Call Screening of Call Forwarding does not use tools for verifying translations.

SERVORD

Personal Call Screening of Call Forwarding does not use SERVORD.

Preset Conference

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS14 and later versions

Requirements

To operate, Preset Conference has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The Preset Conference feature applies to an originator that belongs to an MDC station, trunk, or attendant console. This feature allows the originator to dial a specified directory number (DN) that activates the switching office. This action starts a simultaneous ringing of a maximum of 25 selected conference members. Table PRECONF (Preset Conference) must specify the conferees in advance.

Note: In BCS29, the Preset Conference (Large) feature (AF2014) improves Preset Conference. See “Preset Conference (Large)” for more information. Preset Conference (Large) allows a maximum of 50 conferees.

Operation

When activation of the Preset Conference feature begins and after the first conferee answers, the conference begins. When other conference members answer, the system adds the members to the conference. The conference terminates when all the conferees disconnect.

Conference origination and screening

When the originator dials the DN, a check verifies if the system allows the originator to set up the preset conference. Datafill in table CUSTENG (Customer Group Engineering) must specify option CONF6C. If the call is valid, the originator hears ringing when the conference begins. If the call is not correct, the system routes the originator to no service circuit (NOSC) treatment.

If the MDC customer group uses the maximum number of six-port conference circuits, the system routes the originator to reorder tone. See BV1122, “6 Port

Preset Conference (continued)

Conference Circuit Use Control". The Preset Conference feature can have datafill that specifies an emergency type conference. When this condition occurs, the number of circuits in use increases. The system does not check this number against the maximum number allowed for the customer group.

An MDC station that cannot originate a conference must dial 0 to access the attendant. The attendant can dial the preset conference DN and transfer the call back to the station when the attendant hears the ringing.

A direct inward dial (DID) agent can originate a preset conference. Datafill for the Preset Conference feature determines this condition. A DID agent can be a POTS line or an incoming trunk.

If the originator uses a trunk, the trunk type must be a type that returns disconnect supervision. If the trunk type does not return disconnect supervision, the system routes the caller to reorder tone. A conference can have a maximum of one originator. An attempt to originate a conference already started causes the system to route the second originator to busy tone.

The Preset Conference feature allows the preset conference DN to be part of the preset conference list.

Preset conference and conference DN

The assignment of a ten-digit DN to each preset conference occurs. Access from the customer group occurs through dialing the DN of the conference. Associated with each preset conference DN is a list of 1 to 25 preset conferee DNs. Each conferee address can be a string of a maximum of 18 digits. Associated with each conferee DN are a time-out interval and an alternate DN. If the conferee does not answer in the time-out period, the call attempt ends. If an alternate DN is present, an attempt to complete the preset conference call using this DN occurs.

The customer group and a network class of service (NCOS) must have datafill for the preset conference to allow proper screening and locating of the correct translator. The conferees can belong to the same customer group.

Note: The NCOS restrictions can prevent the end user from originating a preset conference. For example, an NCOS that diverts calls to an attendant console.

Preset conference bridge selection

The selection of conference bridges occurs from a pool of idle bridges. A check makes sure that the customer group does not use more than the allowed number of bridges in the office. If enough bridges are not available, the system routes the originator to NOSC treatment.

Preset Conference (continued)

When the system seizes the required number of bridges, the originator receives audible ringing. This event occurs when the system originates calls to all the addresses stored for the specified preset conference.

The system provides automatic retrial. One alternate address for each conferee is also available when the requirement occurs. An automatic retrial attempt occurs on all conferees that returned answer supervision in an adjustable interval of 15 to 60 s. This action occurs after the call to that conferee initiated. A call to a primary address can fail to complete in two retrials and the system can provide the conferee with an alternate address. When this condition occurs, two additional attempts occur on the alternate DN. Retrial attempts do not occur on an address that is a secondary conference bridge.

For trunk groups that do not return true answer supervision, a tone detector determines answer. These trunk groups are 5X25 and foreign exchange on digital carrier module trunks. If detection of the answer does not occur after two attempts, use of the alternate address occurs if the address is present.

Note: An interruption can occur to answer propagation. When this condition occurs the Preset Conference feature cannot complete to that conferee. The conferee has line option FNT or INWATS.

The conferee data can cause the conference to start when the first conferee answers. When this condition occurs, the answer causes audible ringing to the originator to stop and the conference to begin. Attempts to complete calls to unanswered conferees continue without audible ringing. When other conferees answer, the system adds the conferees to the conference call. This action occurs after the application of 400 ms of conference entrance tone (440 Hz + 480 Hz).

The conference can also have a delayed start. When the first conferee answers, the system attaches a tone or announcement to the conference bridge. Datafill determines if the system attaches a tone or announcement. The tone or announcement continues as an audible signal to answering conferees until 2 s after all conferees answer. To force the conference, the originator can:

- press the octothorpe (#) key on a 2-wire 12-key dual tone multiple frequency (DTMF) telephone set
- press the A key on a 4-wire 16-key DTMF telephone set

Secondary conferencing

Secondary conferencing is the ability to interconnect with remote conference bridges. The system permits secondary conferencing with the Preset Conference feature. If a conference begins and one of the addresses requires a secondary bridge, the system processes the address in a normal manner. The

Preset Conference (continued)

system directs the address to the switching office that serves the secondary bridge equipment. Table PRECONF identifies the DNs of all conferees that are secondary conferences with field CLASS set to C.

Termination

The system releases all connections. The equipment returns to idle when all conferees are on-hook. The system releases separate bridges from multiple-bridge connections when the last conferee connected to the bridges goes on-hook. When a conferee disconnects, the system provides a 400 ms burst of conference exit tone (350 Hz + 440 Hz). The system provides the tone to all other members of the conference.

Datafill allows for the originator to be the controlling conferee for the conference. When the originator goes on-hook, the conference ends. This event occurs even if the other conferees remain on the bridge. A conferee can disconnect from the bridge when the originator does not control the conference. When this condition occurs, a check occurs for the presence of DMS stations or trunks with disconnect supervision. If stations or trunks of the described type are not conferees, the conference ends. This event occurs even if conferees with no-disconnect type trunks continue to be active.

Translations table flow

Preset Conference does not affect translations table flow.

Limits

The following limits apply to Preset Conference:

- An MDC station not permitted to establish a conference call must dial the attendant for addition of the station to a conference.
- If the originator is a trunk, the trunk must be able to return disconnect supervision.
- Between 1 and 25 conferees associate with each preset conference DN.

Interactions

The following paragraphs describe the interactions between Preset Conference and other functionalities.

Preset Conference (continued)

The following features remain active during incoming preset conference calls:

- call forward don't answer
- call forward busy
- call forward intragroup

Note: If the primary address does not answer, a call forwarding attempt occurs. This action occurs if call forwarding is active.

On origination to a conferee, the deactivation of routing features expensive route warning tone and off-hook queuing occurs.

When a conference connects to a preset conference, the following features deactivate for the length of the call:

- call waiting
- three-way calling
- busy verification of trunks and lines
- flash recall
- executive busy override

The originator can attempt to originate an MDC preset conference from the second leg of a three-way call. When this event occurs, the system routes the call to reorder tone.

The conference sets up if the originator:

- is active in a flexible station controlled conference
- flashes to initiate add-on
- dials an MDC preset conference DN

Activation/deactivation by the end user

Preset Conference does not require activation or deactivation by the end user.

Billing

Preset Conference does not affect billing.

Station Message Detail Recording

Station Message Detail Recording (SMDR) can apply to one, several, or all legs of the conference call. The system identifies each leg as a conference call in the SMDR report. This action occurs with the addition of the leg to the conference call.

Preset Conference (continued)

Datafilling office parameters

Preset Conference does not affect office parameters.

Datafill sequence

The tables that require datafill to implement Preset Conference appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Preset Conference

Table	Purpose of table
CLLI	Common Language Location Identifier Table
CUSTENG	Customer Group Engineering Table
DNROUTE	Directory Number Route Table
STN	Special Tone Table
IBNXLA	IBN Translation Table

Datafilling table CLLI

Table CLLI (Common Language Location Identifier) contains the name that identifies each tone, announcement, or trunk group in the switch. The entry of data in table CLLI must occur to make sure that the definition of the preset conference tones occurs.

Datafill for Preset Conference for table CLLI appears in the following table. The fields that apply to Preset Conference appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CLLI (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
CLLI		see explanation	Common Language Location Identifier. This field specifies 1 to 16 characters that identify the far end of each announcement, tone, or trunk group. Enter the characters.
ADNUM		see explanation	Administrative Trunk Group Number. This field specifies the administrative trunk group number. Enter a value from 0 to a number one less than the size of Table CLLI in Table DATASIZE.

Preset Conference (continued)**Datafilling table CLLI (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
TRKGRSIZ		0 to 2047	Trunk Group Size. This field specifies the maximum number of trunk members expected for assignment in the trunk group. Enter a value from 0 to 2047.
ADMININF		see explanation	Administrative Information. This field specifies the administrative information. Enter up to 32 characters.

Datafill example for table CLLI

Sample datafill for table CLLI appears in the following example. In this example, the preset conference tone PCNOR is already present.

MAP example for table CLLI

CLLI	ADNUM	TRKGRSIZ	ADMININF
PCNOR	234	32	PRESET_CONF_NORMAL_NOTIF

Datafilling table CUSTENG

The values for the engineering parameters and options for each customer group appear in table CUSTENG (Customer Group Engineering).

Datafill for Preset Conference for table CUSTENG appears in the following table. The fields that apply to Preset Conference appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CUSTENG (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		see subfield	Options. This field contains subfield OPTION.

Preset Conference (continued)**Datafilling table CUSTENG (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	OPTION	CONF6C	Option. This subfield specifies the name of the option. Enter CONF6C for six port conference circuits.
	MAX_NO_CNF6C	0 to 2046	Maximum Six Port Conference Circuits. This subfield specifies the maximum number of six port conference circuits available for allocation to a customer group. Enter a value from 0 to 2046.

Datafill example for table CUSTENG

Sample datafill for table CUSTENG with option CONF6C appears in the following example.

MAP example for table CUSTENG

CUSTNAME	NONCOS	NOIBNTMT	CONSOLES	DOMAIN	GROUPID OPTIONS
MDCGRP1	100	40	Y	FAMILY	MDC 1234 (CONF6C 15)

Datafilling table PRECONF

Information on IBN preset conferences in the office appears in table PRECONF (Preset Conference). For an IBN switching unit, the only conference type the system allows is IBN. Table PRECONF must contain datafill that defines the information on all the preset conferences in the office.

Preset Conference (continued)

Datafill for Preset Conference for table PRECONF appears in the following table. The fields that apply to Preset Conference appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table PRECONF (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
PCNFKEY		see subfields	Preset Conference Key. This field contains subfields PRECONF and CONFEREE.
	PRECONF	0 to 63	Preset Conference Identifier. This subfield specifies the number the operating company assigns to the preset conference. Enter a value from 0 to 63.
	CONFEREE	0 to 49	Conferee Identifier. This subfield specifies the number the operating company assigns to the conferee. Entry of conferee 0, which is in use to hold the conference DN, must occur first. Enter a value from 0 to 49.
CONFADDR		digital	Conference Address. This field specifies the DN of the conferee. Enter a DN of a maximum of 18 digits.
PCNFVAR		see subfields	Preset Conference Variables. This field contains the following subfields: • CLASS • CONFTYPE • CUSTGRP • NCOS • ALTADDR • ORIGCONT • TIMEOUT • ADDON • DIDORIG • EMERG • ATDREQ • IMMSTART • NOTCLLI

Preset Conference (continued)

Datafilling table PRECONF (Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	CLASS	P, A, C, or D	Conference Class. This subfield specifies the conference class. Enter P, A, C, or D.
	CONFTYPE	IBN	Conferee Type. This subfield specifies the conferee type. Enter IBN to indicate an IBN type of preset conference.
	CUSTGRP	customer group	Customer Group. This subfield specifies the customer group name assigned in Table CUSTHEAD. Enter the name of the customer group.
	NCOS	0 to 511	Network Class Of Service. This subfield specifies the NCOS number of the preset conference. Enter a value from 0 to 511.
	ALTADDR	see explanation	Alternate Address. This subfield specifies the alternate address. If CLASS is A, enter an alternate DN.
	ORIGCONT	Y or N	Originator Control. This subfield specifies if the system takes down the preset conference when the originator of the conference goes on hook. Enter Y or N.
	TIMEOUT	15 to 60	Variable Time-out. This subfield specifies the variable time-out. This time is in seconds. Enter a value from 15 to 60.
	ADDON	Y or N	Conference Add Ons. This subfield specifies if the system allows the originator of this IBN preset conference to add additional conferees to the conference. This action occurs when establishment of the conference occurs. Enter Y or N.
	DIDORIG	Y or N	DID Origination Allowed. This subfield specifies if the system allows a DID party to originate a preset conference. Enter Y or N.
	EMERG	Y or N	Emergency Conference. This subfield specifies if the system allows a preset conference to originate if the customer group uses the maximum number of 6 port circuits. Enter Y or N.

Preset Conference (continued)**Datafilling table PRECONF (Sheet 3 of 3)**

Field	Subfield or refinement	Entry	Explanation and action
	ATDREQ	Y or N	Audio Tone Detector Required. This subfield specifies if the call does not continue when ATD is not available. Enter Y or N.
	IMMSTART	Y or N	Immediate Start. This subfield specifies if the preset conference starts when the first conferee answers. Enter Y or N.
	NOTCLLI	PCNOR	Standard Preset Conference Notification. This subfield specifies the standard preset conference notification. Enter PCNOR for the standard notification tone or any announcement CLLI in Table ANNS.

Datafill example for table PRECONF

Sample datafill for table PRECONF appears in the following example.

MAP example for table PRECONF

PCNFKEY CONFADDR												
PCNFVAR												
0	0	6136211249										
	D	IBN	IBNTEST	0	Y	Y	Y	N	N	N	PCNOR	

Datafilling table STN

Tones that require trunk cards appear in table STN (Special Tone). If field IMMSTART in Table PRECONF contains Y, do not enter data in table STN. Enter data in table IBNXL. The entry of data in table STN must occur to define the preset conference normal notification tone.

Preset Conference (continued)

Datafill for Preset Conference for table STN appears in the following table. The fields that apply to Preset Conference appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table STN (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
SK		see subfields	Special Tone Key. This field contains subfields TONE and MEMBER.
	TONE	CWT, ROH, BVTONE, ERWT, IEBOT, EBOT, OHQT, AVPSPD, AVPMT, PCNOR, DISTCWT, DRCWTONE, ENHCWT1, ENHCWT2, or ENHCWT3	Tone. This subfield specifies the pseudo-fixed code assigned to the tone trunk circuit in table CLLI.
	MEMBER	0 to 999	Member Number. This subfield specifies the member number assigned to the tone trunk circuit. Enter a value from 0 to 999.
TMTYPE		MTM or STM	Trunk Module Type. This field specifies the trunk module type which contains the trunk circuit. Enter MTM for maintenance trunk module or STM for service trunk module.
TMNO		0 to 255	Trunk Module Number. This field specifies the number assigned to the MTM or STM which contains the tone trunk circuit. Enter a value from 0 to 255.
TMCKTNO		0 to 29	Trunk Module Circuit Number. This field specifies the trunk module circuit number on the MTM or STM to which the assignment of the tone trunk circuit occurs. Enter a value from 0 to 29.

Preset Conference (continued)**Datafilling table STN (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
CARDCODE		1X00AC, 3X68AA, 3X68AC, 3X68BA, or 3X68BC	Card Code. This field specifies the product engineering code of the tone trunk circuit. Enter one of the following: • 1X00AC • 3X68AA • 3X68AC • 3X68BA • 3X68BC
MAXCONN		1 to 255	Maximum Connections. This field specifies the maximum number of simultaneous connections the system allows to the tone trunk circuit. Enter a value from 1 to 255.
TRAFSNO		1 to 127 or 0	Traffic Separation Number. This field specifies the traffic separation number. Enter a value from 1 to 127 where switching unit is local or local/toll. Enter 0 if a value is not a requirement.

Datafill example for table STN

Sample datafill for table STN appears in the following example.

MAP example for table STN

SK						
TMTYPE	TMNO	TMCKTNO	CARDCODE		MAXCONN	
TRAFSNO						
PCNOR	0					
MTM	3	16	3X68AC	10	0	

Datafilling table IBNXLA

Table IBNXLA (IBN Translation) stores the data for the digit translation of calls from:

- an IBN station
- an attendant console

Preset Conference (continued)

- an incoming IBN trunk group
- the incoming side of a two-way IBN trunk group

Datafill in table IBNXLA is optional for each member in the preset conference group with a 500/2500 set. If field ADDON for any preset conference member with a 500/2500 set in Table PRECONF contains Y, Table IBNXLA can contain datafill.

Datafill for Preset Conference for table IBNXLA appears in the following table. The fields that apply to Preset Conference 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.
	XLANAME	translator name	Translator Name. This subfield specifies the 1-character to 8-character alphanumeric name assigned to the translator. Enter the translator name.
	DGLIDX	digital	Digilator Index. This subfield specifies the access code. Enter the 1-digit to 18-digit number assigned as the access code.
RESULT		see subfields	Result. This field contains subfields TRSEL, ACR, SMDR, and FEATURE.
	TRSEL	FEAT	Translation Selector. This subfield specifies the translation selector. Enter FEAT.
	ACR	Y or N	Account Code Entry. This subfield specifies if an account code entry is a requirement for all calls to the special feature access code. Enter Y or N.
	SMDR	Y or N	Station Message Detail Recording. This subfield specifies if the system records calls from a customer group station or attendant console to any station in the block of station numbers. Enter Y or N.
	FEATURE	CONF	Feature. This subfield specifies the Station Controlled Conference feature. Enter CONF.

Preset Conference (continued)

Datafilling table IBNXLA (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
KEY		see subfields	Key. This field contains subfields XLANAME and DGLIDX.
	XLANAME	translator name	Translator Name. This subfield specifies the 1-character to 8-character alphanumeric name assigned to the translator. Enter the translator name.
	DGLIDX	digital	Digilator Index. This subfield specifies the access code. Enter the 1-digit to 18-digit number assigned as the access code.
RESULT		see subfields	Result. This field contains subfields TRSEL, ACR, SMDR, and FEATURE.
	TRSEL	FEAT	Translation Selector. This subfield specifies the translation selector. Enter FEAT.
	ACR	Y or N	Account Code Entry. This subfield specifies if an account code entry is a requirement for all calls to the special feature access code. Enter Y or N.
	SMDR	Y or N	Station Message Detail Recording. This subfield specifies if the system records calls from a customer group station or attendant console to any station in the block of station numbers. Enter Y or N.
	FEATURE	RLS	Feature. This subfield specifies the Release feature. Enter RLS.

Datafill example for table IBNXLA

Sample datafill for table IBNXLA appears in the following example.

MAP example for table IBNXLA

KEY	RESULT
CXT3 99	FEAT N N CONF
CXT3 100	FEAT N N RLS

Tools for verifying translations

Preset Conference does not use tools for verifying translations.

Preset Conference (end)

SERVORD

Preset Conference does not use SERVORD.

Queuing OMs for each Route

Operating codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS19 and later versions

Requirements

To operate, Queuing OMs for each Route has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

Before this feature, the system collected operational measurements (OM) for off-hook queuing (OHQ) and call-back queuing (CBQ) for each customer group. When a member of a customer group triggered a condition that the OMs monitored, an OM register increased. This OM collection method provided the telephone operating companies with a complete view of queuing requirements.

The queuing OMs for each Route feature allows the telephone operating companies to collect OHQ and CBQ OMs for each route base. This action allows the companies to view the call traffic for each route.

To maintain higher compatibility, you can collect OHQ and CBQ OMs for each customer group and for each route.

Operation

Before the installation of queuing OMs for each Route, CBQ and OHQ OMs were part of the IBN customer group (IBNGRP). This group contained two OMs for OHQ, OHQOFFER and OHQABN. This group contained four OMs for CBQ, CBQDEACT, CBQDELT, CBQOVWRT, and CBQOK. The system collected these OMs for each customer group.

The queuing OMs for each Route feature creates a new group, OHQCBQCG. This feature removes the OMs from the IBNGRP group and places the OMs in the new OHQCBQCG group. This feature adds five new OMs. The feature adds two OMs for OHQ, OHQBLOCK and OHQOVFL. The feature adds three OMs for CBQ, CBQOVFL, CBQRAT, and CBQPP. The system can collect these OMs for each customer group, like before the installation of this feature.

Queuing OMs for each Route (continued)

In addition, this feature creates a second new group, OHQCBQRT. This group contains eleven new OMs. Four OMs are for OHQ. The OMs for OHQ are RTOHQABN, RTOHQBLK, RTOHQOFR, and RTOHQOVF. Seven OMs are for CBQ. The OMs for CBQ are RTCBQDEA, RTCBQDEL, RTCBQOK, RTCBQOVW, RTCBQOVF, RTCBQRAT, and RTCBQPPT. The system can collect these OMs for each route.

Operational measurements

This feature makes OM changes in the OM groups IBNGRP, OHQCBQCG, and OHQCBQRT. The following sections describe these changes for each OM group.

IBNGRP

This feature removes the following trunk queuing OM registers from this OM group: OHQOFFER, OHQABN, CBQOK, CBQDEACT, CBQDELT, and CBQOVWRT. This feature does not add registers to this group. Refer to the *Operational Measurements Reference Manual* for a complete description of this group.

The OM group IBNGRP registers provide information about the customer group use of Integrated Business Network (IBN) call processing. A customer group is a set of lines owned by a group of subscribers that request special services. The registers in IBNGRP appear in the following table.

IBNGRP registers (Sheet 1 of 3)

Register	Explanation
CODEBLK	CODEBLK (code blocked) increases when the system blocks a call because of IBN code restrictions.
CXFR	CXFR (call transfer) counts successful call transfers between stations in the IBN customer group.
CXFRTOAT	CXFRTOAT (call transfer to attendant) increases when a station flashes and dials the associated code in an attempt to transfer a call. This register also counts the calls that transfer to the attendant through listed directory numbers (LDN).
DOD	DOD (direct outward dial) increases when a station or attendant places a DOD call. Dial the DOD access code to place a DOD call to the exchange network without attendant support. When you receive a second dial tone, dial the external number. Access codes are in table IBNXLA. The register counts successful and not successful DOD calls.

Queuing OMs for each Route (continued)

IBNGRP registers (Sheet 2 of 3)

Register	Explanation
GICORIG	GICORIG (group intercom originations) counts abbreviated dialing calls that start from business sets and IBN lines in the customer group. The GIC feature allows customers to use abbreviated dialing to call a member of a specified group. This register increases when a station uses the GIC feature. If a party answers the call, this action does not affect this condition.
GINCATOT	GINCATOT (group incoming total) counts incoming calls for a customer group. This register does not count a call from one customer group to another customer group in the same switch. Field INTRAGROUP must be N in table IBNXL A .
GINTRCPT	GINTRCPT (given intercept) increases when a call receives the intercept treatment. This register counts the originating, terminating and tandem class of service and code restriction problems. This register counts attendant attempts to complete calls to denied incoming (DIN) stations. This register does not count calls that route to announcements, tones, and attendant answers.
HLDABAN	HLDABAN (held abandons) counts held calls that abandon the line before the system recalls the calls.
HLDFRES	HLDFRES (held call failures resources) counts calls that cannot go on hold because feature data blocks are not available. Software resource treatment does not occur. Parameter NO_OF_FTR_DATA_BLKs in table OFCENG specifies the number of available data blocks.
HLDRCLL	HLDRCLL (held recalls) counts calls on hold that recall. If station A contains the recall option, HLDRCLL increases when recall occurs. The recall can be receiver off-hook (ROH) tone or ringing.
HLDSUCC	HLDSUCC (held successful) counts calls placed on hold.
INSPECT	INSPECT (IBN INSPECT key use) increases when the Inspect key on a display electronic business set (EBS) is in use. Use the Inspect key to view information associated with a feature or directory number (DN) key on a business set. Use the Inspect key to display call information on an incoming call.
NDIAL0	NDIAL0 (number of dial 0 attempts) increases when a station or tie trunk user dials a code to reach an attendant and does not dial the DN of the attendant. The NDIAL0 includes station dial attendant and automatic line originations if the route transfers to the attendant. This condition does not include attempts and seizures on incoming attendant trunks.

Queuing OMs for each Route (continued)

IBNGRP registers (Sheet 3 of 3)

Register	Explanation
NORIG0	NORIG0 (number of originations) counts calls that originate at a station or with an attendant. Permanent signal partial dial calls are included. This register does not count attendant extended calls.
RGADEACT	RGADEACT (ring again deactivation) counts ring again (RAG) attempts the system deletes when a user dials the deactivation code. A RAG deactivation occurs when a user with a pending RAG request activates RAG for another DN.
RGADELTN	RGADELTN (ring again deletions) counts RAG attempts the system deletes for the following reasons: • response to RAG ringing does not occur • lines removed from service • RAG feature deletes from caller • call forwarding activates
RGAOVWRT	RGAOVWRT (ring again overwrites) increases when a RAG overwrite occurs. A RAG overwrite occurs when station A has a ring again request pending to a busy station B. If A dials another busy station and activates RAG again, the new RAG request overwrites the earlier RAG request.
SECINVAL	SECINVAL (security code invalid) increases when you dial a security code number that is not correct. A security code allows a code to be assigned to an IBN station DN that restricts feature activation associated with that DN.
SRGACMPL	SRGACMPL (successful ring again completions) counts successful RAG attempts. The RAG allows a station to monitor a busy DN in the same customer group. The RAG allows a station to notify the user when the DN becomes free.
STNSTN	STNSTN (station to station) increases when a station dials another station in a customer group. The STNSTN does not count call transfer attempts by stations or attendant-originated calls.

OHQCBQCG

The system collects off-hook queuing and call-back queuing OMs in this group for each customer group.

- Group description: This call processing group increases use of call-back queuing and off-hook queuing for each customer group.
- Office parameters: Office parameters do not affect this OM group.

Queuing OMs for each Route (continued)

- Key field description: IBNG_INDEX—This key indexes to table CUSTHEAD.
- Info field description: OMIBNGINFO—Enter data in this field in table CUSTHEAD.

The OM group OHQCBQCG provides information about the IBN features Off-hook Queuing and Call Back Queuing for a customer group. The registers in OHQCBQCG appear in the following table.

OHQCBQCG registers (Sheet 1 of 2)

Register	Explanation
CBQDEACT	CBQDEACT (call back queuing deactivations) increases when you dial the CBQ deactivation code to cancel a CBQ request. This register also increases when you press the CBQ key on an active business set.
CBQDELT	CBQDELT (call back queuing deletions) increases when the system deletes a CBQ request. The system can delete the request for one of the following reasons: • the originator does not answer the recall • the system removes the line from service • you cancel the option CBQ
CBQOK	CBQOK (call back queuing okay) increases when a CBQ request correctly completes and the originator answers the recall ringback.
CBQOVFL	CBQOVFL (call back queuing overflows) increases when a CBQ request cannot complete because not enough software resources are available. Parameter NUMOHCBQTRANSBLKS in table OFCENG specifies the number of transaction blocks that an office can use for OHQ and CBQ. Parameter AVG_#_TGS_PER_OHCBQCALL in table OFCENG specifies the average number of trunk groups in an OHQ/CBQ call. If transaction blocks are not available during a CBQ request, the system denies the request.
CBQOVWRT	CBQOVWRT (call back queuing overwrites) increases when other CBQ or RAG requests overwrite a CBQ request. This condition occurs when the caller has a CBQ request waiting and activates CBQ on another call before the original request completes. To overwrite a CBQ request on a business set, cancel the CBQ request that remains. Activate the feature on a different call.

Queuing OMs for each Route (continued)

OHQCBQCG registers (Sheet 2 of 2)

Register	Explanation
CBQPPT	CBQPPT (call back queuing priority promotion timer) increases when the CBQ priority promotion timer for a call expires and CBQ priority promotion of the call occurs. The queue priority promotion time is the maximum time a station can queue at a level in the priority ordered queue. The CBQ starting priority can be one of four levels. The CBQ maximum priority is the highest level the station can achieve in the priority-ordered queue. If the starting priority is less than the maximum priority, priority promotion is available for the request when the timer expires. Table CUSTSTN contains data for the CBQ priority promotion timer. Enter the CBQ starting priority and maximum priority in table NCOS.
CBQRAT	CBQRAT (call back queuing route advance timer) increases when the CBQ route advance timer for a CBQ request expires. The CBQ request must qualify for CBQ route advance timing. The CBQ route advance timer prevents large delays during heavy traffic periods. This timer begins when a request is made to queue a call back on an inexpensive route. When the timer expires, completion on expensive and inexpensive routes is available for the CBQ request. Enter the field CBQRAT in table CUSTSTN to apply this feature to stations in a customer group.
OHQABN	OHQABN (off-hook queuing abandons) increases when the calling party abandons the off-hook queuing (OHQ) attempt before the request completes. This register counts the calls you abandon by one of the following methods: - go on-hook to terminate the OHQ attempt - flash and go on-hook to activate CBQ - activate the CBQ feature on a business set and going on-hook
OHQBLOCK	OHQBLOCK (off-hook queuing blockages) increases when the system blocks an OHQ request because the request cannot complete before a specified wait timeout. Enter data in the wait timeout in table IBNRTE. The OHQBLOCK also increases when a likelihood test fails. The likelihood test decides if a call has a change to be assigned to an idle trunk in the wait time-out.
OHQOFFER	OHQOFFER (off-hook queuing offers) increases when the user receives an OHQ offer because trunks are not on the preferred route of the call.
OHQOVFL	OHQOVFL (off-hook queuing overflows) increases when an OHQ request cannot complete because not enough software resources are available. Parameter AVG_#_TGS_PER_OHCBQCALL in table OFCENG the average number of trunk groups in an OHQ or CBQ call. Parameter NUMOHCBQTRANSBLKS in table OFCENG specifies the number of transaction blocks that an office can use for OHQ and CBQ.

Queuing OM for each Route (continued)

The following trunk queuing OM registers are added to this OM group:

- **CBQDEACT:** This register increases when you dial the CBQ deactivation code to cancel a CBQ request. You can press the CBQ key on a business set when the CBQ is active to cancel the request.
- **CBQDELT:** This register increases when the system deletes a CBQ request because the originator does not answer the recall. The system removes the line from service or cancels the CBQ option.
- **CBQOK:** This register increases when a CBQ request correctly completes and the originator answers the recall ringback.
- **CBQOVFL:** This register increases when a CBQ request cannot complete. The request cannot complete because not enough queuing resources are on the trunk group when the CBQ request occurs. The system attempts NOSR treatment on a CBQ when queuing resources are not available.

This register can determine if the following office parameters need adjustment:

- **NUMOHCBQTRANSBLKS:** This parameter, in table OFCENG, specifies the number of transaction blocks that an office can use for OHQ and CBQ. This number must not exceed the number of CCBs in the switch, NCCBS in OFCENG.
- **AVG_#_TGS_PER_OHCBQCALL:** This parameter, in table OFCENG, indicates the average number of trunk groups in an OHQ/CBQ call.
- **No. of Element Blocks:** To determine the number of element blocks on a switch, multiply the parameters NUMOHCBQTRANSBLKS and AVG_#_TGS_PER_OHCBQCALL. If transaction blocks or element blocks are not available during an OHQ request, the system denies the request. The CBQOVFL register increases.
- **CBQOVWRT:** This register increases when another CBQ request or a RAG request overwrites a CBQ. This action occurs when the user activates CBQ on another call with a CBQ request pending.

Note: The user cannot overwrite a CBQ request when using a business set. The business set user must cancel the CBQ requests that remain before the user can activate the feature on a different call.

- **CBQPPT:** This register increases when the call-back queuing priority promotion timer (CBQPPT) for a call expires and CBQ priority promotion of the call occurs.

Enter CBQPPT in table CUSTSTN. When a CBQ request is made, the request goes in a priority-ordered queue based on the CBQ start priority

Queuing OMs for each Route (continued)

(CBQSP) of the customer group. The customer group is the group to which the requestor belongs. If the starting priority is less than the maximum priority, priority promotion is available for the request when the timer expires.

This register does not increase if CBQPPT expires after the call reaches maximum priority. Refer to DID V0542 for additional details.

- **CBQRAT:** This register increases when the CBQ route advance timer (CBQRAT) for a CBQ request expires for a CBQRA qualified call.

The CBQRAT prevents large delays during heavy traffic periods. A CBQ request first occurs on an inexpensive route. After the CBQRAT expires, if the call is CBQRA qualified, the CBQ request can complete. The request can complete on an expensive or inexpensive route.

Calls only from stations in customer groups with the CBQRAT field in table CUSTSTN at a value from 1 through 15 can have CBQRA. A value of 0 in the field specifies an infinite route advance time.

- **OHQABN:** This register increases when the calling party abandons an OHQ attempt before the request completes.

This action occurs when a station user goes on-hook to terminate an OHQ attempt, flashes and goes on-hook to activate CBQ. On a business set, this action occurs when the station user activates the CBQ feature and goes on-hook. The call must be in an OHQ queue. The call does not currently terminate on an idle trunk. The OHQ wait time does not expire.

- **OHQBLOCK:** This register increases when the system blocks an OHQ request because the request fails the likelihood test.

When a user makes an OHQ request, the DMS-100 switch uses the likelihood test to decide if the call can complete. The switch decides if the call can complete in the time the user specifies for off-hook queuing wait time (OHQWT). The user specifies this time in table IBNRTE. The number of calls in the queue and the priorities of each call determine this test. The OHQWTs and the traffic rate determine this test. If the likelihood test fails, the system blocks the OHQ request. The system routes the user to all trunks busy treatment.

Other requirements that can cause the system to refuse the call to OHQ do not increase this register.

- **OHQOFFER:** This register increases when a user that attempts to make a call over a route without available trunks receives an offer of OFQ.

Queuing OMs for each Route (continued)

If the likelihood test fails, the call does not go in the OHQ queue. The system routes the user to all trunks busy treatment.

- **OHQOVFL:** This register increases when an OHQ request cannot complete. The request cannot complete because not enough queuing resources are on the trunk group when the OHQ request occurs. The system attempts NOSR treatment on OHQ if queuing resources are not available.

This register can determine if the following office parameters need adjustment:

- **NUMOHCBQTRANSBLKS:** This parameter, in table OFCENG, specifies the number of transaction blocks that an office can use for OHQ and CBQ. This number must not exceed the number of CCBs in the switch, NCCBS in OFCENG.
- **AVG_#_TGS_PER_OHCBQCALL:** This parameter, in table OFCENG, indicates the average number of trunk groups in an OHQ/CBQ call.
- **No. of Element Blocks:** To determine the number of element blocks on a switch, multiply the parameters NUMOHCBQTRANSBLKS and AVG_#_TGS_PER_OHCBQCALL. If transaction blocks or element blocks are not available during an OHQ request, the system denies the request. The CBQOVFL register increases.

OHQCBQRT

The system collects off-hook queuing and call-back queuing OMs in this group for each route.

- **Group description:** This call processing group increases use of CBQ and OHQ for each route.
- **Office parameters:** Office parameters do not affect this OM group.
- **Key field description:** EXTENDED_ROUTE_REF_INDEX—This key indexes to table IBNRTE.
- **Info field description:** OM_IBN_RTE_INFO—This field contains the IBN route (IBNRTE). Enter data in this field in table IBNRTE.

Queuing OMs for each Route (continued)

The OM group OHQCBQRT provides information on the IBN features OHQ and CBQ for each route. The registers in OHQCBQRT appear in the following table.

OHQCBQRT registers (Sheet 1 of 2)

Register	Explanation
RTCBQDEA	RTCBQDEA (route call back queuing deactivations) increases when you dial the CBQ deactivation key to cancel a CBQ request. You can press the CBQ key on a business set when CBQ is active to cancel the request.
RTCBQDEL	RTCBQDEL (route call back queuing deletions) increases when the system deletes a CBQ request. The system can delete the request for one of the following reasons: - the originator does not answer the recall - the system removes the line from service - you cancel the option CBQ.
RTCBQOK	RTCBQOK (route call back queuing okay) increases when a CBQ request correctly completes and the originator answers the recall ringback.
RTCBQOVF	RTCBQOVF (route call back queuing overflows) increases when a CBQ request cannot complete because not enough software resources are available. Parameter NUMOHCBQTRANSBLKS in table OFCENG specifies the number of transaction blocks that OHQ and CBQ can use in an office. Parameter AVG_NUM_TGS_PER_OHCBQCALL in table OFCENG specifies the average number of trunk groups in an OHQ/CBQ call. If transaction blocks are not available during a CBQ request, the system denies the request.
RTCBQOWR	RTCBQOWR (route call back queuing overwrites) increases when other CBQ or RAG requests overwrite a CBQ request. This action occurs when the caller has a CBQ request pending and activates CBQ on another call. This action occurs before the original request completes. To overwrite a CBQ request on a business set, cancel a CBQ request that remains before you activate the feature on a different call.
RTCBQPPT	RTCBQPPT (route call back queuing priority promotion timer) increases when the CBQ priority promotion timer for a call expires and call back queuing priority promotion of the call occurs. The queue priority promotion time is the maximum time a station queues at a level in the priority ordered queue. The CBQ starting priority can be one of four levels. The CBQ maximum priority is the highest level the station can achieve in the priority ordered queue. If the starting priority is less than the maximum priority, priority promotion is available for the request when the timer expires.

Queuing OM for each Route (continued)

OHQCBQRT registers (Sheet 2 of 2)

Register	Explanation
RTCBQRAT	RTCBQRAT (route call back queuing route advance timer) increases when the CBQ route advance timer for a CBQ request expires. The CBQ request must be qualified for CBQ route advance timing. The CBQ route advance timer prevents delays during heavy traffic periods. First, a request is made to queue a call back on an inexpensive route. When the time expires, the CBQ request can complete on inexpensive and expensive routes. Enter data in the field CBQRAT in table CUSTSTN to apply this feature to stations.
RTCBQABN	RTCBQABN (route off-hook queuing abandons) increases when the calling party abandons an OHQ attempt before the request completes. This register counts the calls that you abandon through one of the following methods: • go on-hook to terminate the OHQ attempts • flash and go on-hook to activate CBQ • activate the CBQ feature on a business set and go on-hook
RTOHQBLK	RTOHQBLK (route off-hook queuing blockages) increase when the system blocks an OHQ request because the request cannot complete before a specified wait time-out. Enter the wait timeout in table IBNRTE. RTOHQBLK also increases when a likelihood test fails. The likelihood test decides if a call has a change to assign an idle trunk in the wait timeout.
RTOHQOFR	RTOHQOFR (route off-hook queuing offers) increase when a user receives an offer of OHQ because trunks are not available on the desired route.
RTOHQOVF	RTOHQOVF (route off-hook queuing overflows) increases when an OHQ request cannot complete because enough provisioning of software resources are not available. Parameter AVG_NUM_TGS_PER_OHCBQCALL in table OFCENG specifies the average number of trunk groups in an OHQ or CBQ call. Parameter NUMOHCBQTRANSBLKS in table OFCENG specifies the number of transaction blocks that an office can use for OHQ and CBQ.

This OM group contains the following trunk queuing OM registers:

- **RTCBQDEA:** This register increases when you dial the CBQ deactivation code to cancel a CBQ request. You can press the CBQ key on a business set when CBQ is active to cancel the request.
- **RTCBQDEL:** This register increases when the system deletes a CBQ request. The system deletes the request when the originator does not answer the recall. The system deletes the request when the removal of the line from service occurs. The system deletes the request when a cancellation of the CBQ option occurs.

Queuing OMs for each Route (continued)

- **RTCBQOK:** This register increases when a CBQ request completes and the originator answers the recall ringback.
- **RTCBQOVF:** This register increases when a CBQ request cannot complete. The request cannot complete because not enough queuing resources are on the trunk group when the CBQ request occurs. The system attempts NOSR treatment on a CBQ when queuing resources are not available.

This register can determine if the following office parameters need adjustment:

- **NUMOHCBQTRANSBLKS:** This parameter, in table OFCENG, specifies the number of transaction blocks an office can use for OHQ and CBQ. This number must not exceed the number of CCBs in the switch, NCCBS in OFCENG.
- **AVG_#_TGS_PER_OHCBQCALL:** This parameter, in table OFCENG, indicates the average number of trunk groups in an OHQ/CBQ call.
- **No. of Element Blocks:** To determine the number of element blocks on a switch, multiply the parameters NUMOHCBQTRANSBLKS and AVG_#_TGS_PER_OHCBQCALL. If transaction blocks or element blocks are not available during an OHQ request, the system denies the request. The CBQOVFL register increases.
- **RTCBQOWR:** This register increases another CBQ request or a RAG request overwrite a CBQ request. This action occurs when the user activates CBQ on another call with a CBQ request pending.

Note: The user cannot overwrite a CBQ request when using a business set. The business set user must first cancel the CBQ requests that remain before the user can activate the feature on a different call.

- **RTCBQPPT:** This register increases when the call-back queuing priority promotion timer (CBQPPT) for a call expires. The CBQ priority promotion of the call occurs.

Enter CBQPPT in table CUSTSTN. When a CBQ request is made, the request goes in a priority ordered queue. The CBQ start priority (CBQSP) of the customer group to which the requestor belongs determines the queue. If the starting priority is less than the maximum priority, priority promotion is available for the request when the timer expires.

This register does not increase if CBQPPT expires after the call reaches the maximum priority. Refer to DID V0542 for additional details.

- **RTCBQRAT:** This register increases when the CBQ route advance timer (CBQRAT) for a CBQ request expires for a CBQRA qualified call.

Queuing OMs for each Route (continued)

The CBQRAT is in use to prevent large delays during heavy traffic periods. A CBQ request first occurs on an inexpensive route. After the CBQRAT expires, the CBQ request can complete if the call is CBQRA qualified. The request can complete on an expensive or inexpensive route.

Calls only from stations in customer groups with the CBQRAT field in table CUSTSTN at a value from 1 through 15 can receive CBQRA. A value of 0 in the field specifies an infinite route advance time. A route advance does not occur.

- **RTOHQABN:** This register increases when the calling party abandons an OHQ attempt before the request completes.

This event occurs when a station user goes on-hook to terminate an OHQ attempt, flashes, and goes on-hook to activate CBQ. This event occurs when the user activates the CBQ feature and goes on-hook on a business set. This action occurs when the call is in an OHQ queue and the call does not terminate on an idle trunk. The OHQ wait time does not expire.

- **RTOHQBLK:** This register increases when the system blocks an OHQ request because the request fails the likelihood test.

When a user makes an OHQ request, DMS-100 switch uses the likelihood test to decide if the call can complete. The switch decides if the call can complete in the time the user specifies for off-hook queuing wait time (OHQWT). The user specifies this time in table IBNRTE. The number of calls in the queue, the separate priorities and OHQWTs, and the traffic rate determine the queue. If the likelihood test fails, the system blocks the OHQ request. The system routes the user to all trunks busy treatment.

Other conditions that can cause the system to refuse OHQ do not increase this register.

- **RTOHQOFR:** This register increases when the user receives an offer of off-hook queuing. This action occurs when the user attempts to make a call over a route without available trunks.

If the likelihood test fails, the call does not go in the OHQ queue. The system routes the user to all trunks busy treatment.

- **RTOHQOVF:** This register increases when an OHQ request cannot complete. The request cannot complete because not enough queuing resources are on the trunk group when the OHQ request occurs. The system attempts NOSR treatment on an OHQ when queuing resources are not available.

This register can determine if the following office parameters need adjustment:

- **NUMOHCBQTRANSBLKS:** This parameter, in table OFCENG, specifies the number of transaction blocks that an office can use for

Queuing OMs for each Route (continued)

OHQ and CBQ. This number must not exceed the number of CCBs in the switch, NCCBS in OFCENG.

- **AVG_#_TGS_PER_OHCBQCALL:** This parameter, in table OFCENG, indicates the average number of trunk groups in an OHQ/CBQ call.
- **No. of Element Blocks:** To determine the number of element blocks on a switch, multiply the parameters NUMOHCBQTRANSBLKS and **AVG_#_TGS_PER_OHCBQCALL**. If transaction blocks or element blocks are not available during an OHQ request, the system denies the request. The CBQOVFL register increases.

Translations table flow

queuing OMs for each Route does not affect translations table flow.

Limits

The following limits apply to queuing OMs for each Route:

- queuing OMs for each Route requires off-hook queuing and call-back queuing to function correctly.

Interactions

queuing OMs for each Route does not have functionality interactions.

Activation/deactivation by the end user

queuing OMs for each Route does not require activation or deactivation by the end user.

Billing

queuing OMs for each Route does not affect billing.

Station Message Detail Recording

queuing OMs for each Route does not affect Station Message Detail Recording.

Datafilling office parameters

queuing OMs for each Route does not affect office parameters.

Datafill sequence

queuing OMs for each Route does not affect datafill.

Tools for verifying translations

queuing OMs for each Route does not use tools for verifying translations.

Queuing OMs for each Route (end)

SERVORD

queuing OMs for each Route does not use SERVORD.

Remove Timeout between Authcode/Secondary Dial Tone

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS12 and later versions

Requirements

To operate, the Remove Timeout between Authcode/Secondary Dial Tone feature requires BAS Generic, BAS00003.

Description

The Remove Timeout between Authcode and Secondary Dial Tone feature removes the 7 s pause between the input of authorization codes and second dial tone. When an IBN end user dials a correct authorization code, and correct security digits, the following occurs. The Remove Timeout between Authcode and Secondary Dial Tone feature records that is not necessary to dial more authorization code digits. The feature proceeds to the next stage of call processing and does not wait for an octothorpe (#) or interdigit time-out. If the end user dials an incorrect authorization code, the Remove Timeout between Authcode and Secondary Dial Tone feature continues to collect digits. The feature proceeds to the next stage of call processing after the feature receives an octothorpe or when interdigit time-out occurs.

Operation

An IBN end user can enter an authorization code before the user dials the called number. An IBN end user can enter an authorization code on request. This action occurs when the user receives an authorization code prompt after the user dials the called number. For voluntary input of the authorization codes, the authorization codes feature remains active. The feature remains active until the system receives and translates the digits of the called number occurs.

If field SEC in table CUSTHEAD contains Y, the system invokes the Remove Timeout between Authcode and Secondary Dial Tone feature. The following procedure is used for digit collection:

- The feature reports digits, except the security digits, when the peripheral modules of the DMS-100 office receive the digits. If the authorization code is correct, the Remove Timeout between Authcode and Secondary Dial Tone feature can collect additional digits. The feature can report the digits. These digits include the account code and security digits, if the

Remove Timeout between Authcode/Secondary Dial Tone (continued)

digits are combined. The system validates the received digits. The Remove Timeout between Authcode and Secondary Dial Tone feature proceeds to the next stage of call processing. The system sends dial tone to allow dialing of the called number, or routes the call to the destination.

- If the authorization code or security digits are not correct, the Remove Timeout between Authcode and Secondary Dial Tone feature reverts to the digit collection plan. The feature collects digits until time-out occurs or the system receives an octothorpe. This action signals the end of the digit stream.

Refer to “ESN - Authorization Codes” and “Authorization Codes” for additional information about the Remove Timeout between Authcode and Secondary Dial Tone feature.

Translations table flow

The Remove Timeout between Authcode/Secondary Dial Tone feature does not affect translations table flow.

Limits

The following limits apply to the Remove Timeout between Authcode/Secondary Dial Tone feature:

- Implementation of the ESN - Authorization Codes feature (BV0783) and the Authorization Codes feature (BV0494) must occur in the customer group. This customer group has the Remove Timeout between Authcode and Secondary Dial Tone feature.

Interactions

The interactions between the Remove Timeout between Authcode/Secondary Dial Tone feature and other functionalities appear in the following paragraphs.

The Remove Timeout between Authcode and Secondary Dial Tone feature interacts with the ESN - Authorization Codes feature (BV0783) and the Authorization Codes feature (BV0494).

Activation/deactivation by the end user

The Remove Timeout between Authcode/Secondary Dial Tone feature does not require activation or deactivation by the end user.

Billing

The Remove Timeout between Authcode/Secondary Dial Tone feature does not affect billing.

Remove Timeout between Authcode/Secondary Dial Tone (continued)

Station Message Detail Recording

The Remove Timeout between Authcode/Secondary Dial Tone feature does not affect Station Message Detail Recording.

Datafilling office parameters

The Remove Timeout between Authcode/Secondary Dial Tone feature does not affect office parameters.

Datafill sequence

The implementation of the Remove Timeout between Authcode and Secondary Dial Tone feature occurs with feature BV0783, ESN - Authorization Codes. With the Remove Timeout between Authcode and Secondary Dial Tone feature, entry of the authorization code occurs before the entry of the called number. You do not wait for the prompt for the code. Refer to "ESN - Authorization Codes" for the necessary datafill to make sure you activate this feature correctly.

The tables that require datafill to implement Remove Timeout between Authcode/Secondary Dial Tone appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Remove Timeout between Authcode/Secondary Dial Tone

Table	Purpose of table
CUSTHEAD	Customer Group Head. This table defines the public and private transaction capability application part (TCAP) translator names for each customer group.

Datafilling table CUSTHEAD

Table CUSTHEAD (Customer Group Head) defines the public and private TCAP translator names for each customer group. Enter data in table CUSTHEAD to assign the Remove Timeout between Authcode and Secondary Dial Tone feature to the customer group.

Datafill for the Remove Timeout between Authcode/Secondary Dial Tone feature for table CUSTHEAD appears in the following table. The fields that apply to the Remove Timeout between Authcode/Secondary Dial Tone feature

Remove Timeout between Authcode/Secondary Dial Tone (continued)

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

Datafilling table CUSTHEAD

Field	Subfield or refinement	Entry	Description
OPTIONS			Options This field specifies the list of options and associated subfields assigned to the customer group. Enter AUTH. Note: If OPTIONS is set to AUTH, enter data in subfields OPTION, PARTNM, SEC, and COMB.
	OPTION		Option This subfield specifies the authorization codes option. Enter AUTH.
	PARTNM		Authorization Partition Name This subfield specifies the name of the customer group in table AUTHCODE (Authorization Code) and table AUTHPART (Authorization Partition). Enter the authorization partition name.
	SEC		Security This subfield specifies if an authorization code user enters an octothorpe or waits for the expiry of interdigit time-out. The expiry indicates the end of dialing. Enter Y or N.
	COMB		Combined Authorization and Account Code This subfield specifies if the code is a combined authorization and account code. Enter Y or N.

Datafill example for table CUSTHEAD

Sample datafill for table CUSTHEAD appears in the following example.

Remove Timeout between Authcode/Secondary Dial Tone (end)

MAP example for table CUSTHEAD

TABLE: CUSTHEAD				
CUSTNAME	CUSTXLA	DGCOLNM	IDIGCOL	OPTIONS
PRAEFAULT	PRAXLA	NDGT	NIL	
(VACTRMT 0) (EXTNCOS 0) (AUTH BNR N N) \$				

Tools for verifying translations

The Remove Timeout between Authcode/Secondary Dial Tone feature does not use tools for verifying translations.

SERVORD

The Remove Timeout between Authcode/Secondary Dial Tone feature does not use SERVORD.

Restricted Dial Tone

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: not applicable

Release applicability

Restricted Dial Tone was introduced in NA010.

Prerequisites

To operate, Restricted Dial Tone has the following prerequisites:

- BASE0001 - BASE Bilge
- BASE0001 - BASE Common Basic
- BASE0003 - BAS Local Features I

Description

Overview

The Restricted Dial Tone (RSDT) feature allows an operating company to deny termination and limit originating calls for lines that are normally out-of-service. Lines that are normally placed in an out-of-service condition by the SERVORD command OUT can be automatically placed in an RSDT state of IN_EFFECT with associated restrictions on terminating and originating calls. Lines with an RSDT state of IN_EFFECT can be returned to service by the SERVORD command NEW which also changes their RSDT state to ELIGIBLE.

A line with an RSDT state of IN_EFFECT has a LCC of 1FR, the same line attribute index as the provisioned RSDT DN (see table DNROUTE selector RSDT on page 1-6) along with line options digitone (DGT) and flash ignore (FIG). No other options can be assigned to the line. Lines with an RSDT state of ELIGIBLE do not have these restrictions.

Operation

The RSDT feature adds table RSDTLIN. This table contains LENs that will have an RSDT state of ELIGIBLE, IN_EFFECT, or UNDEFINED. SERVORD commands NEW and OUT will cause the RSDT state of LENs to change between ELIGIBLE and IN_EFFECT. An RSDT selector has been added to table DNROUTE that is used to define the operating company's restrictions on RSDT lines. The new office parameter RSDT_ENABLED is used to control RSDT functionality. A new RSDT CI command has been added that is used to control RSDT functionality, change the RSDT directory number and line attribute index, and initiate an audit of table RSDTLIN.

Restricted Dial Tone (continued)

All table control operations associated with RSDT are kept in the Journal File (JF) except audit information. This arrangement allows the operating company to re-apply all RSDT transactions when necessary.

Software optionality control

Software Optionality Control (SOC) is used to give access to the RSDT feature:

When the SOC option is set to IDLE, the following conditions apply:

- the operating company can datafill the DNROUTE and RSDTLN tables
- the RSDT_ENABLED parameter cannot be set to Y
- the RSDT audit process does not run
- the CI command RSDT cannot be executed

When the SOC option is set to ON, the following conditions apply:

- the CI command RSDT can be executed
- the operating company can use the RSDT feature by setting the office parameter RSDT_ENABLED to Y
- the RSDT audit process can be executed

User interface

The Query Directory Number (QDN) is modified to display the RSDT DN number. The Query Line Equipment Number (QLEN) command is updated to provide a new display for lines that have an RSDT status of IN_EFFECT. QLEN is not changed for lines with an RSDT status of ELIGIBLE. A new CI command RSDT is added to activate and deactivate RSDT functionality, change the RSDT DN or line attribute index, and to initiate an audit on table RSDTLN.

Office parameter RSDT_ENABLED

Office parameter RSDT_ENABLED in table OFCENG is added by the RSDT feature and is set to Y by the RSDT CI command to activate RSDT functionality, and set to N to deactivate RSDT functionality.

Office parameter RSDT_ENABLED cannot be changed using table editor commands CHA or REP. The CI command RSDT must be used to activate and deactivate RSDT functionality. RSDT is activated when the value of RSDT_ENABLED is changed from N to Y by entering the CI command RSDT ACT. RSDT is deactivated when RSDT_ENABLED is changed from Y to N by entering the CI command RSDT DEACT.

Restricted Dial Tone (continued)

When RSDT_ENABLED is set to N, the RSDT tuple can be added, deleted or modified in table DNROUTE. In order to set the RSDT_ENABLED office parameter to Y, one RSDT DN must be datafilled in table DNROUTE, the RSDT SOC must be on. If the RSDT DN is not datafilled in table DNROUTE then the transition of the RSDT_ENABLED office parameter from N to Y is aborted and an error message is generated. The following table shows the effect of the RSDT office parameter value on LEN states in table RSDTLIN.

STATE field values in table RSDTLIN

Value of parameter RSDT_ENABLED	LEN STATUS in table LNINV	LEN STATE in table RSDTLIN
N	HASU	UNDEFINED
N	WORKING	UNDEFINED
N	CUTOFF	UNDEFINED
Y	HASU (see note)	IN_EFFECT
Y	WORKING	ELIGIBLE
Y	CUTOFF	ELIGIBLE
Y	CUTOFF	IN_EFFECT
Note: The LEN becomes WORKING in table LNINV		

When RSDT_ENABLED is set to N, the STATE field in table RSDTLIN for each line is UNDEFINED regardless of the status in table LNINV. When RSDT_ENABLED is set to Y, the STATE field in table RSDTLIN is determined by the STATUS field in table LNINV.

RSDT system audit

A new system audit called RSDTLIN_AUDIT is added to the Audit (AUD) subsystem. RSDTLIN_AUDIT generates a new report type, AUD394, if required. The audit is run at a low frequency when the SOC state is ON and is triggered by one or more of the following conditions:

- The RSDT CI command is issued to activate or deactivate RSDT functionality
- The RSDT CI command is issued to change the RSDT DN attributes in table DNROUTE
- At least one AUD394 report was generated during the last RSDTLIN_AUDIT cycle. The audit runs every cycle until all data inconsistencies have been corrected.

Restricted Dial Tone (continued)

Note: A daily audit is invoked by the SOC audit, and is run during the first audit cycle after 06:30. When parameter AUDLOWFREQ in table OFCSTD is set to 15 minutes, the audit begins in the period between 06:30 and 06:45. Under this condition, the audit runs every cycle until all data inconsistencies have been corrected.

When the RSDT audit is run, any inconsistent data on RSDT lines is corrected when possible and an AUD394 report is generated. Failure to correct data can be caused by a line with an RSDT state of IN_EFFECT that is call processing busy (CPB) or an unexpected error condition or data corruption has occurred.

The system audit process makes a sum of all the errors reported by all the audit procedures executed during the last hour and reports this in an AUD120 log entry. The maximum number of errors that can be reported by the RSDT audit process is 20 000.

RSDT selector in table DNROUTE

To permit operating company provisioning of RSDT dialing restrictions, selector RSDT is added to table DNROUTE. The RSDT selector contains a line attribute index that is used to define dialing restrictions. The entry in the KEY field of table DNROUTE selector RSDT is a virtual DN which is also known as the RSDT DN. Only one RSDT DN can be datafilled in table DNROUTE and it must be entered before the RSDT_ENABLED office parameter can be set to Y.

Table RSDTLINE

Table RSDTLINE is used to identify RSDT lines and their current RSDT state. Table RSDTLINE is limited in size to the number of tuples in table LNINV.

The LEN entered in an RSDTLINE tuple must be datafilled in table LNINV with a status of HASU, WORKING, or CUTOFF.

The value of table RSDTLINE field STATE is updated during the following activities:

- The value of office parameter RSDT_ENABLED has been changed. This action updates the STATE value of every tuple in table RSDTLINE.
- Applying the SERVORD command NEW to a line changes its RSDTLINE state to ELIGIBLE.
- Applying the SERVORD command OUT, CLN, or SWAP to a line changes its RSDTLINE state to IN_EFFECT.

Restricted Dial Tone (continued)**OM group RSDT**

OM group RSDT is added by the RSDT feature. Registers EFFTOLLI, ELITOEFF, DELACT, DELSO, DELTC, and DELAUDIT are only pegged when the RSDT feature is activated. Registers in the group count the number of RSDT state transitions and the number of deletions from table RSDTLIN.

The following table describes the six registers in OM group RSDT.

OM group RSDT registers

Register	Description
EFFTOLLI	Pegged when an RSDT line goes from IN_EFFECT to ELIGIBLE (using NEW or COPYSET commands).
ELITOEFF	Pegged when an RSDT line goes from ELIGIBLE to IN_EFFECT (using OUT, CLN, SWAP, EXBDELM, or EXBDELG commands).
DELACT	Pegged when an RSDT line is removed from table RSDTLIN during the activation of the feature by the RSDT CI command because the LCC was not 1FR or 1FR/RES, an RSDT incompatible option was assigned or associated line data in LNINV was invalid.
DELSO	Pegged when a LEN is removed from table RSDTLIN as a result of a SERVORD command NEW, CHG, SWAP, or COPYSET application.
DE LTC	Pegged when a LEN is removed from table RSDTLIN as a result of direct deletion through table control.
DE LAUDIT	Pegged when a LEN is removed from table RSDTLIN as a result of the audit process

Modifications to SERVORD command OUT

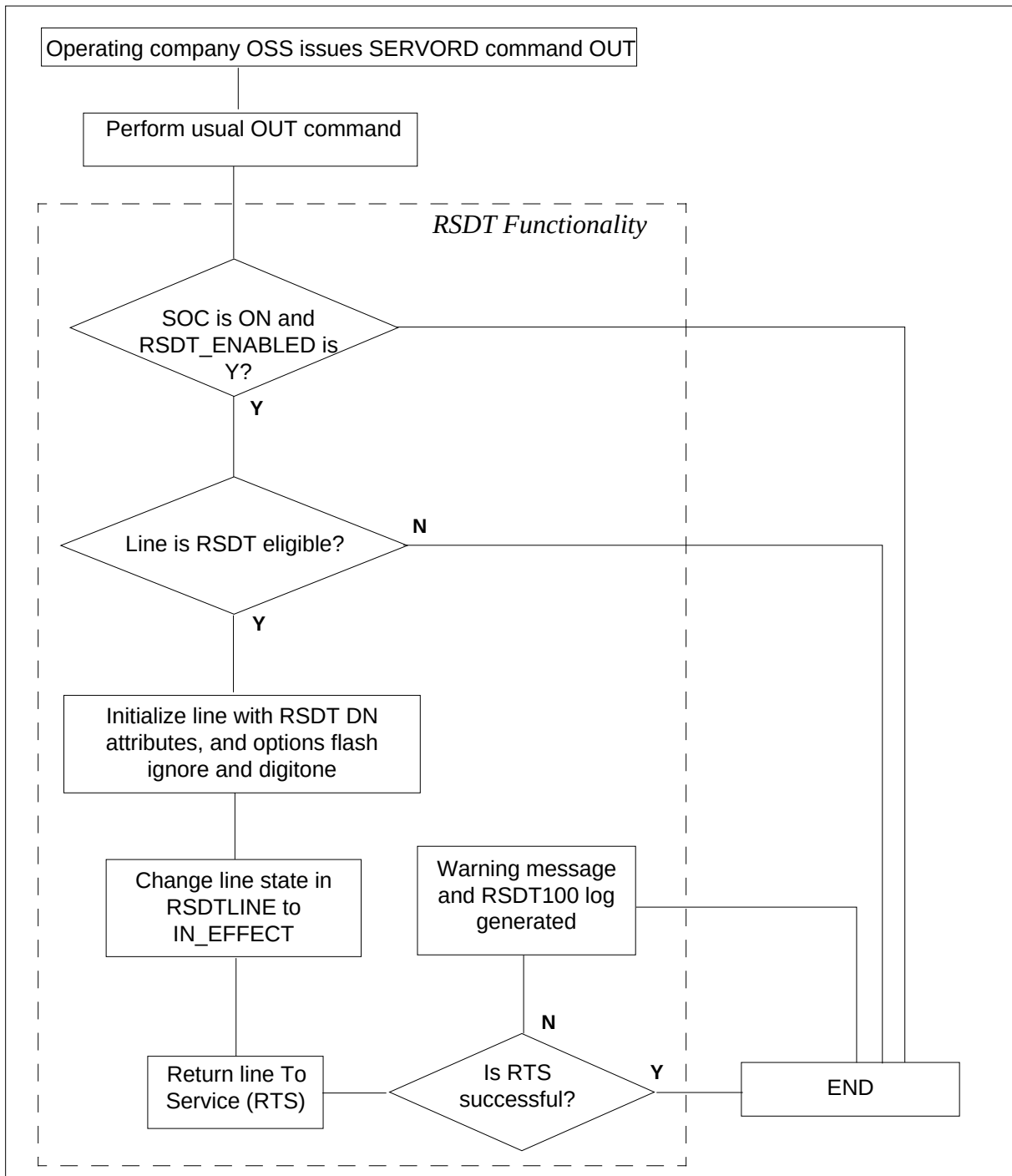
When the SERVORD command OUT is applied to an RSDT line, the line state in table RSDTLIN is changed from ELIGIBLE to IN_EFFECT.

All lines with an RSDTLIN state of IN_EFFECT have an LCC of 1FR, the same line attribute index as the provisioned RSDT DN in table DNROUTE, and options digitone (DGT) and flash ignore (FIG). No other options can be assigned to the line.

The following figure shows the modifications to the SERVORD command OUT.

Restricted Dial Tone (continued)

Feature flow for SERVORD command OUT fow



Restricted Dial Tone (continued)

Modifications to SERVORD command NEW

When the SERVORD command NEW is applied to an RSDT line, the line state in table RSDTLINE is changed from IN_EFFECT to ELIGIBLE, and the line will have the attributes specified in the NEW command.

Only 1FR and RES/1FR LCCs are supported on RSDT eligible lines. If an unsupported LCC or line option is specified in the NEW command, a warning message is displayed, an RSDT100 log is generated, and the line is deleted from table RSDTLINE. RSDT functionality will no longer be available to the LEN.

The following attributes are not compatible with RSDT:

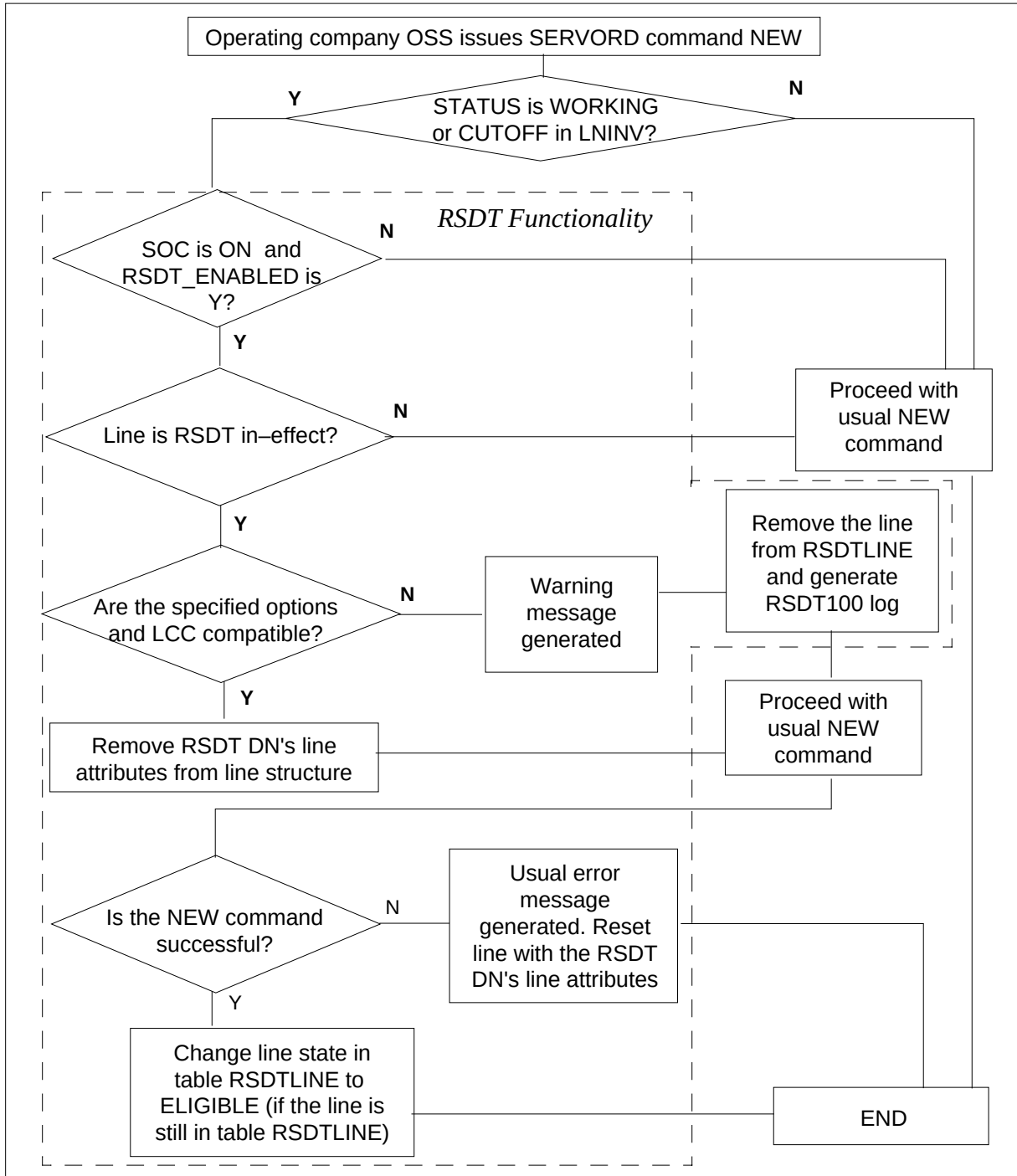
- any LCC other than 1FR or 1FR/RES
- hunt group options MLH, DLH, DNH, BNN, MPH, and PRH

RSDT does not change the prompting sequence of the NEW command.

The following figure shows the modifications to the SERVORD command NEW.

Restricted Dial Tone (continued)

Feature flow for SERVORD command NEW



Restricted Dial Tone (continued)

Changes to other SERVORD commands**COPYSET command**

The COPYSET command is used to put lines in service so that they have the same attributes as a referenced working line. Only RSDT eligible lines can be used as the reference lines, but their RSDT eligibility is not copied to the new lines.

EXBEST command

The EXBEST command is used to establish a MADN group. A line is put out of service and brought back into service (using the NEW as the MADN primary line).

The primary LEN must be in a WORKING state in table LNINV so it can be RSDT eligible. The OUT command sets the LEN to RSDT in-effect and the NEW command sets it to RSDT eligible.

EXBDELM, and EXBDELG commands

The EXBDELM and EXBDELG commands delete a LEN from a MADN group using the OUT command. These commands change a LEN from an RSDT eligible state to an RSDT in-effect state.

CLN command

The CLN command supports RSDT lines with an RSDTLIN state of ELIGIBLE when they are used as the first LEN. The following limitations apply:

- LENs with a state of IN_EFFECT in table RSDTLIN cannot be used as the first LEN because the CLN command does not support virtual DNs.
- LENs with a state of IN_EFFECT in table RSDTLIN cannot be used as the second LEN because the STATUS of the second LEN must be HASU.

CHG command

When the CHG command is used to change the LCC of an existing RSDT line to an LCC not compatible with RSDT, the line is removed from table RSDTLIN and an RSDT100 log is generated.

SWAP command

The SWAP command functions only with RSDT lines that have a table RSDTLIN state of ELIGIBLE (table LNINV status WORKING). The SWAP command functions with the following restrictions:

- If the FROM_LEN is not in table RSDTLIN, the TO_LEN is assigned the new DN and is not added to RSDTLIN table.
- In LOOP mode, if the FROM_LEN is in table RSDTLIN as ELIGIBLE, the FROM_LEN remains in table RSDTLIN as ELIGIBLE with its new

Restricted Dial Tone (continued)

DN. In INTERCEPT or FREE mode, the FROM_LEN remains in table RSDTLIN with state of IN_EFFECT and is assigned the RSDT DN.

- If the LEN is in table RSDTLIN with a state of IN_EFFECT, the SWAP command fails and generates an error message because the LEN is associated with the virtual RSDT DN.
- When a SWAP command is performed between an RSDT eligible line and a line that has an incompatible LCC or line options, the SWAP command is successful, a warning message is generated, and the line is deleted from table RSDTLIN. The command fails even if the first DN is set to INTERCEPT or FREE mode.

RSDT command

A new CI command (RSDT) has been added that performs the following functions:

- enables the operating company to change the RSDT DN in table DNROUTE without having to reset office parameter RSDT_ENABLED. This command deletes the existing RSDT DN in table DNROUTE and adds the new RSDT DN with the same LNATTIDX. The line data structures of all in-effect lines are also updated with the new DN.
- enables the operating company to change the LNATTIDX associated with the RSDT DN in table DNROUTE without having to reset office parameter RSDT_ENABLED. This command updates the existing RSDT tuple in table DNROUTE and also updates the line data structures of all in-effect lines with the new line attribute index.
- activates RSDT functionality by changing office parameter RSDT_ENABLED from N to Y. Table editor commands cannot be used to change the setting of parameter RSDT_ENABLED in table OFCENG.

Restricted Dial Tone (continued)

- deactivates RSDT functionality by changing office parameter from Y to N. Table editor commands cannot be used to change the setting of parameter RSDT_ENABLED in table OFCENG.
- performs consistency checks on table RSDTLIN by performing an immediate RSDT audit.

**CAUTION****Potentially invalid RSDT environment**

All RSDT commands are not HX immune, and should not be aborted unnecessarily. When an RSDT command is interrupted prior to completion, table RSDTLIN is left in an inconsistent state that can only be corrected by using an RSDT AUDIT command. It is also recommended that the RSDT AUDIT command be used whenever the journal file is reapplied. The time required to activate and deactivate RSDT functionality is related to the size of table RSDTLIN (the larger the table size, the longer the time required to complete the change). It is recommended that any change in functionality should be performed during a low switch activity period, tuples should be pre-screened for compatibility, and the ratio of WORKING to HASU lines should be as high as possible.

SERVORD commands entered when an RSDT command is executing will complete, but the following operations are blocked:

- any other RSDT CI commands entered during execution of the present RSDT command
- when office parameter RSDT_ENABLED is set to Y any changes to the RSDT tuple in table DNROUTE
- when office parameter RSDT_ENABLED is set to N, any additions or changes to the RSDT tuple in table DNROUTE
- *Note:* manual deletions are not blocked when RSDT_ENABLED is set to N and RSDT commands CHGDN or CHGLT are invoked
- the RSDT audit process
- table control commands on table RSDTLIN,

Restricted Dial Tone (continued)

Limitations and restrictions

The following limitations and restrictions apply to RSDT:

- The target DMS platform is DMS-100 or DMS-100/200 BRISC.
- Only CARDCODES that support POTS lines can be used for RSDT lines.
- Lines in MLH, DNH, DLH, BNN, PRH, and MPH hunt groups are not eligible for RSDT functionality.
- Only the SERVORD command NEW supports RSDT IN_EFFECT lines as HASU lines. All other SERVORD commands consider RSDT IN_EFFECT lines as WORKING lines with a virtual DN.
- The number of lines in RSDTLINE is limited to the maximum number of lines in table LNINV.
- Flash-triggered features cannot be invoked on lines with an RSDT status of IN_EFFECT because the FIG option is applied to these lines.
- Any provisioning on RSDT lines should be done using SERVORD and never directly by modifying table LENLINES, IBNLINES, HUNTMEM, or any other table that are meant to be provisioned through SERVORD. If these tables are modified directly, the RSDT audit process may not handle and correct any corruptions.

Interactions

Advanced Intelligent Network (AIN0.0, AIN0.1, AIN0.2)

AIN enhances the switch call processing capabilities by using centralized operating company provided service logic programs placed at Service Control Points (SCP). The service logic programs provide call processing information for AIN calls.

All AIN originating office-wide triggers applicable to a call originating from a POTS line are supported on lines with an RSDT state of IN_EFFECT. Lines with an RSDT state of ELIGIBLE are not affected.

Local Number Portability (LNP)

There is no feature interaction between RSDT service and LNP, however the following conditions can apply:

- If an RSDT DN is ported, the RSDT DN must appear in table DNROUTE.
- Calls made to a ported RSDT DN receive standard treatment.
- The DN of a line with a RSDT state of ELIGIBLE line can be ported.

Restricted Dial Tone (continued)

- A ported line with an RSDT state of ELIGIBLE can originate calls as usual.
- Calls can terminate on a ported line with an RSDT state of ELIGIBLE.

Analog Display Services Interface (ADSI)

RSDT does not include ADSI script development for its support on the VISTA350 sets.

Usage sensitive 3-Way Calling (U3WC)

U3WC is not supported on lines with and RSDT state of IN_EFFECT.

Automatic Call Back (ACB)

There is no interaction between the RSDT and ACB features.

Automatic Recall (AR)

There is no interaction between the RSDT and AR features.

In Session Activation (ISA)

There is no interaction between the RSDT and ISA features.

Flash Ignore (FIG)

All lines with an RSDT state of IN_EFFECT will have the FIG option applied to insure that the U3WC or any other flash-triggered feature cannot be invoked

Universal Suppressed Ringing Access (USRA)

There is no interaction between the RSDT and USRA features.

Multiline Hunting (MLH), Directory Number Hunting (DNH), Distributed Line Hunting (DLH), BNN (Bridged Night Number), MPH (Multi-Position Hunt), PRH (Preferential Hunting)

Lines associated with these hunt groups are not eligible for RSDT.

Multiple Appearance Directory Number (MADN)

The commands EXBEST, EXBDELM and EXBDELG used to create and modify MADN groups have been enhanced by the RSDT feature to increment the appropriate operational measurement register in OM group RSDT.

Remote Digital Terminal (RDT) Auto-create feature

The Auto-create feature provides the automatic addition or deletion of line datafill in table LNINV during SERVORD transactions affecting the S/DMS AccessNode. Office parameter RDT_SO_AUTOCREATE_LNINV is used to activate the Auto-create feature and the RDTINV table is used to datafill the Remote Digital Terminal (RDT) line.

Restricted Dial Tone (continued)

With the Auto-create feature, it is possible to execute the NEW command on a LEN from the RDTINV table (the LEN may or may not be in the LNINV table). If the LEN is not in LNINV, the NEW command adds it to table LNINV. If the RDT LEN is in table LNINV, the operating company can add the LEN to table RSDTLNE to make it eligible for RSDT.

When the OUT command is executed on an RDT LEN, the RDT LEN is removed from the LNINV table. If the RDT LEN is in table RSDTLNE, the RSDT feature takes precedence over the Auto-create feature and changes the RDT LEN to RSDTLNE state IN_EFFECT and the RDT LNE is not deleted from table LNINV.

When the RDT LEN appears in table RSDTLNE, RSDT applies to the RDT LEN and the Auto-create functionality (deletion part) is not permitted.

Activation/deactivation by the end user

Restricted Dial Tone requires no activation or deactivation by the end user.

Billing

RSDT does not affect billing.

Station Message Detail Recording

Restricted Dial Tone does not affect Station Message Detail Recording.

Datafilling office parameters

A new office parameter RSDT_ENABLED in table OFCENG is introduced by the RSDT feature when activated. Office parameter RSDT_ENABLED can only be changed by using the CI command RSDT. It cannot be changed using table editor commands.

The following table shows the office parameters used by Restricted Dial Tone. For more information about office parameters, refer to *Office Parameters Reference Manual*.

Office parameters used by Restricted Dial Tone

Table name	Parameter name	Explanation and action
OFCENG	RSDT_ENABLED	The CI command RSDT must be used to activate and deactivate RSDT. RSDT is activated when the value of RSDT_ENABLED is changed from N to Y by entering the CI command RSDT ACT. RSDT is deactivated when RSDT_ENABLED is changed from Y to N by entering the CI command RSDT DEACT.

Restricted Dial Tone (continued)**Datafill sequence**

The following table lists the tables that require datafill to provide RSDT functionality..

Datafill tables required for RSDT

Datafill table	Example data
LINEATTR	Table LINEATTR is used to assign line attributes
DNROUTE selector RSDT	Table DNROUTE lists information for directory numbers (DN) in the switch (such as a DN that identifies a route), rather than line equipment numbers (LEN).
OFCENG	Contains the office parameter RSDT_ENABLED.
RSDTLINE	Table RSDTLINE is used to identify the status of RSDT lines.

Datafilling table LINEATTR

The following table shows the datafill specific to Restricted Dial Tone for table LINEATTR. Only those fields that apply directly to Restricted Dial Tone are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table LINEATTR (Sheet 1 of 5)

Field	Subfield or refinement	Entry	Explanation and action
LNATTIDX		numeric (0 to 31 999)	Line attribute index. Enter the index into table LINEATTR.
LCC		1FR	Line class code. For the RSDT line attribute index, enter 1FR.
CHGCLSS		CAM0, CAM1, CAM2, CAM3, CSD0, DAT0, DAT1, DAT2, DAT3, DIHS, DLHS, DLLS, INW0, LAM0, LCDR, MBG, NONE, RCFW, SPCL, TOPS, TRMB, TWX0, or WAT0	Charge class. If the switching is configured for Local Automatic Message Accounting (LAMA), enter the charge class assigned to the line attribute index. Otherwise, enter NONE. Note: With Bellcore CDE format, the entry is NONE except in offices with the OOC: AMA Modernization feature.

Restricted Dial Tone (continued)

Datafilling table LINEATTR (Sheet 2 of 5)

Field	Subfield or refinement	Entry	Explanation and action
COST		HI, LO, or NT	Class of service tone. Enter the class of service tone required: HI (high tone), LO (low tone), or NT (no tone).
SCRNCL		alphanumeric (up to 4 characters) or NSCR	Class of service screening subtable name. If screening by class of service is required, enter the name of the class of service subtable assigned to the line attribute index. If screening by class of service is not required, enter NSCR.
LTG		numeric (0 to 9999)	Line treatment group. Enter the line treatment group (LTG) number assigned to the line attribute index.
STS		numeric (3 digits)	Serving translation scheme. Enter the serving numbering plan area (SNPA) assigned to the line attribute index. The STS of an existing tuple cannot be changed.
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 (NXX) is required, enter the name of the local calling area subtable assigned to the line attribute index. If screening of local NXX codes is not required, enter NLCA.
ZEROMPOS		alphanumeric (up to 10 characters) or NONE	Zero minus position. If a line attribute is configured for operator (0-) and special toll (0+) dialing, enter the position in the position table to which operator (0-) calls are routed. Otherwise, enter N.
TRAFSNO		numeric (0 to 127)	Traffic separation number. Enter the source and destination traffic separation number (1 to 127) assigned to the line attribute index. If a traffic separation number is not required, enter 0 (zero).

Restricted Dial Tone (continued)

Datafilling table LINEATTR (Sheet 3 of 5)

Field	Subfield or refinement	Entry	Explanation and action
CONTMARK		+	Continuation mark. Enter + to indicates that additional information for this tuple is in the next record.
MRSA		alphanumeric (up to 8 characters) or NIL	Message rate service area. If the switching unit is equipped to provide multiunit message rate (MUMR) services, and MUMR billing records are required for calls to numbers resulting in a type of call of NP (no prefix), enter a message rate service area (MRSA) name as datafilled in table MRSANAME field MRSA. If MUMR billing records are not required, enter NIL.
SFC		alphanumeric (up to 8 characters) or NILSFC	Integration subscriber feature class. If the switching unit has an international load, enter an international subscriber feature class. Otherwise, enter NILSFC.
LATANM		alphanumeric (up to 8 characters)	Local access and transport area name. Enter the name of the local access and transport area (LATA) assigned to the line attribute index.
MDI		numeric (0 to 1023)	Metering data index. If the switching unit has an international load, enter the metering data index assigned to the line attribute index. For loads that are not international, enter 0 (zero).
IXNAME		see subfields	International translations system start. This field consists of subfield XLASYS and refinement XLANAME.
	XLASYS	AC, AM CT, DN, FA FT, OFC, NSC, PX, or NIL	International translations system. If the switching unit has an international load, enter the head table name where translation starts, and datafill refinement XLANAME. For loads that are not international, enter NIL and leave refinement XLANAME blank.
	XLANAME	alphanumeric (up to 8 characters)	International translations name. Enter the index into the head table referenced by field XLASYS.

Restricted Dial Tone (continued)

Datafilling table LINEATTR (Sheet 4 of 5)

Field	Subfield or refinement	Entry	Explanation and action
DGCLNAME		alphanumeric (up to 8 characters) or NIL	Digit analysis table entry point. If the switching unit has an international load, enter a digit analysis name to serve as the entry point into the universal digit analysis tables DGHEAD and DGCODE. The name entered here must appear in table DGHEAD field DGNAME. For loads that are not international, enter NIL.
FANDIGS		numeric (00 to 99)	Flexible ANI information digit pairs. If the switching unit is equipped with feature BR0713 (Flexible ANI information digit assignment), enter the flexible automatic number identification (FANI) information digit pair assigned to the line attribute index. Otherwise, enter 00.
CONTMARK		+	Continuation mark. Enter + to indicate that additional information for this tuple is in the next record.
RESINF		see subfields	Residential enhanced services information. This field consists of subfield RESINFO and refinements CUSTGRP, SUBGRP, and NCOS.
	RESINFO	Y or N	RES information selector. Enter Y (yes) if the line attribute index is required to support RES lines (the LCC must be 1FR, 1MR, OWT, EOW, INW, 2WW, ETW, CCF, CDF, CFD, CSP, ZMD, or ZMZPA), and datafill refinements CUSTGRP, SUBGRP, and NCOS blank.
	CUSTGRP	alphanumeric (up to 16 characters)	Customer group. Enter the customer group name assigned to the line attribute index. This name must appear in table CUSTENG field CUSTNAME.
	SUBGRP	numeric (0 to 7)	Customer subgroup. Enter the subgroup within the customer group associated with the line attribute index. The subgroup name must appear in table SUBGRP.

Restricted Dial Tone (continued)

Datafilling table LINEATTR (Sheet 5 of 5)

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS	NCOS	numeric (0 to 511)	Network class of service number. Enter the network class of service (NCOS) number in the customer group associated with the line attribute index. The number must appear in table NCOS field NCOS.
		AMAGRPID, HOT, LCABILL, or LDSV	Line attribute options. This field is a vector consisting of up to three options. Enter AMAGRPID is a group identify for subscription basis tariff is required, and detail subfield AMAGRPID. Enter HOT if identification of hotel lines to the TOPS operator for time and charge is required, or if the outgoing trunk group type is OP. Enter LCABILL if a non-interexchange carrier call is billable. Enter LSDV if Long Distance Signal valid (LDS) is required on a line-group basis, and datafill refinement STATUS.
	STATUS	ACT or DEACT	Long distance signal valid status. Enter ACT to indicate that LDSV is activated for the line group.
	AMAGRPID	alphanumeric (up to 8 characters)	AMA group identity. Enter a group identifier defined in table AMAGRPID.

Datafill example for table LINEATTR

The following example shows sample datafill for table LINEATTR.

Restricted Dial Tone (continued)

MAP display example for table LINEATTR

LNATTIDX	LCC	CHGCLSS	COST	SCRNCL	LTG	STS	PRTNM	LCANAME	ZEROMPOS
TRAFSNO	MRSA	SFC	LATANM	MDI	IXNAME	DGCLNAME	FANIDIGS		
		RESINF							OPTIONS
	0	1FR	NONE	NT	KING	0	613	P613	KING
	10	NIL	NILSFC	LATA1	0	NIL	NIL	00	TOPS
N	\$								

Datafilling table DNROUTE selector RSDT

The following table shows the datafill specific to Restricted Dial Tone for table DNROUTE selector RSDT.

Note: This tuple can only be changed when office parameter RSDT_ENABLED is set to N and no IN_EFFECT lines remain in table RSDTLN.

Datafilling table DNROUTE selector RSDT

Field	Subfield or refinement	Entry	Explanation and action
KEY	AREACODE	Valid NPA	The NPA of the RSDT DN.
	OFCCODE	Valid NXX	The NXX of the RSDT DN.
	STNCODE	4 digits (0-9)	The last four digits of the RSDT DN.
DN_SEL		RSDT	The RSDT selector identifies the RSDT DN in table DNROUTE.
RSDTIDX		0	Index for the RSDT DN used as an identifier for tuples in table RSDTLN. The only valid value for this field is 0. This field may be used for future enhancements.
LNATTIDX		Valid Line Attribute Index from table LINEATTR	The Line Attribute Index that defines the dialing restrictions of lines with table RSDTLN state IN_EFFECT.

Restricted Dial Tone (continued)

Datafill example for table DNROUTE selector RSDT

The following example shows sample datafill for table DNROUTE selector RSDT.

MAP display example for table RSDT

AREACODE	OFCCODE	STNCODE	DNRESULT
613	725	2425	RSDT 0 71

Datafilling table RSDTLINE

The following table shows the datafill specific to Restricted Dial Tone for table RSDTLINE.

Datafilling table RSDTLINE (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LEN		LEN	LEN For each line, this entry is equivalent to the key field in table LNINV.

Restricted Dial Tone (continued)

Datafilling table RSDTLNE (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
STATE		ELIGIBLE, IN_EFFECT, or UNDEFINED	RSDT line state The default value when datafilling a new LEN is UNDEFINED. All lines will have the state set to UNDEFINED when the RSDT_ENABLED office parameter is set to `N'. When the RSDT_ENABLED office parameter is set to `Y', an RSDT eligible line will have the value ELIGIBLE, while an RSDT in-effect line will have value IN_EFFECT. The Servord NEW command on an RSDT in-effect line will update the state to ELIGIBLE, while the Servord OUT command on an RSDT eligible line will update the state to IN_EFFECT. Note: This field is read-only.
RSDTIDX		0	RSDT index The RSDT index is the value of the RSDTIDX field in the DNROUTE table. The default value for this field is 0. This field is used to identify which RSDT DN is used when the state is set to IN_EFFECT. The only valid value for this field is 0. This field can be used for future enhancements.

Datafill example for table RSDTLNE

The following example shows sample datafill for table RSDTLNE.

MAP display example for table RSDTLNE

LEN	STATE	RSDTIDX

HOST 00 1 00 06	IN_EFFECT	0

Translation verification tools

Restricted Dial Tone does not use translation verification tools.

Restricted Dial Tone (end)

SERVORD

The RSDT feature has enhanced the functions of SERVORD commands ADO, NEW, OUT, SWAP, CLN, CHG, COPYSET, EXBDELG, EXBDELM, and EXBEST.

RSDT does not use SERVORD for feature implementation. When the RSDT feature is activated, SERVORD commands OUT and NEW are modified to change the RSDT state of applicable lines.

Ring Reminder Off/On Option per Line

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS31 and later versions

Requirements

To operate, Ring Reminder Off/On Option per Line has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

Ring Reminder Off/On Option per Line allows the operating company to turn off the ring reminder for specified Meridian Digital Centrex (MDC), Residential Enhanced Services (RES), and plain old telephone service (POTS) lines. A ring reminder is a short ring that occurs when the system forwards a call from the line of an end user. The ring reminds the end user that the line is call forwarded. Ring Reminder Off/On Option per Line creates line option IRR. Option IRR turns the ring reminder off for lines.

Operation

MDC lines

Before Ring Reminder Off/On Option for each Line, you were able to turn the ring reminder on and off for MDC lines. You can perform this action for each customer group through option CFXFEAT in table CUSTSTN (Customer Group Station Option). If the ring reminder was off on the customer group, you cannot turn ring reminder off for specified lines. Ring Reminder Off/On Option for each Line allows you to turn the ring reminder off for specified MDC lines when you assign option IRR to the line.

POTS and RES lines

All POTS and RES lines with call forwarding have a ring reminder. Before Ring Reminder Off/On Option for each Line, you cannot turn the ring reminder off for POTS and RES lines. Ring Reminder Off/On Option per Line allows you to turn the ring reminder off for a POTS or RES line. You can turn the ring reminder off for a POTS or RES line when you assign option IRR to the line.

Ring Reminder Off/On Option per Line (continued)

Translations table flow

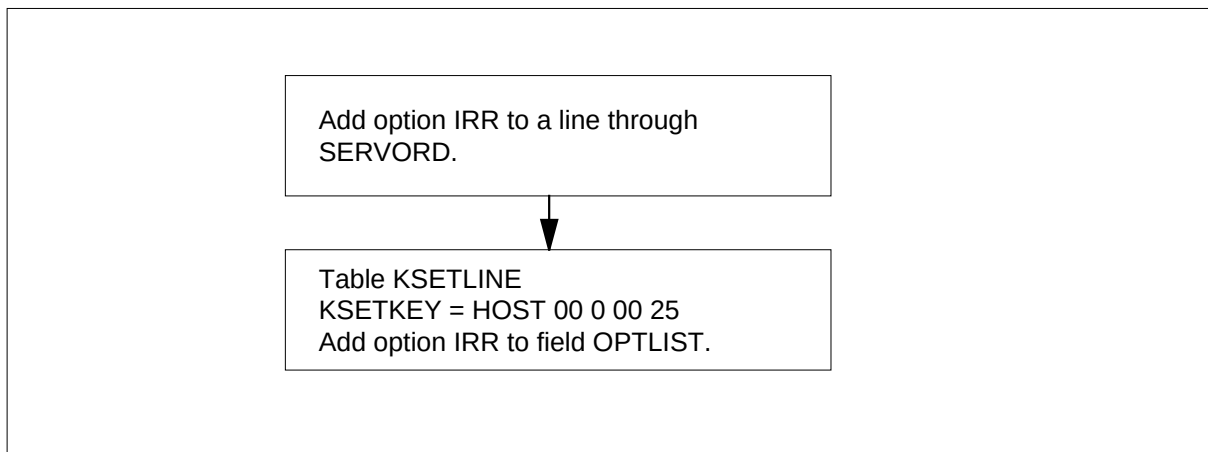
The Ring Reminder Off/On Option per Line translations tables appear in the following list:

- Table LENLINES (Line Assignment) indicates line assignments for POTS lines. Field OPTLIST contains option IRR.
- Table IBNLINES (IBN Line Assignment) indicates line assignments for 500/2500 sets assigned an MDC, RES, or multiple appearance directory number (MADN) station number. Field OPTLIST contains option IRR.
- Table KSETLINE (Business Set and Data Unit Line Assignment) indicates line assignments for Meridian business sets (MBS) or data units. Field OPTLIST contains option IRR.

Note: Enter data in table IBNLINES for 2500 sets and table LENLINES for POTS and RES lines. Enter data like table KSETLINE when field OPTLIST contains IRR.

The Ring Reminder Off/On Option per Line translations process appears in the following flowchart. The procedure to add Ring Reminder Off/On Option per Line to a line appears in the flowchart and data.

Table flow for Ring Reminder Off/On Option per Line



Datafill content of the flowchart appears in the following table.

Datafill example for Ring Reminder Off/On Option per Line

Datafill table	Example data
KSETLINE	HOST 0 0 0 25 1 DN Y 6212001 IBNTST 0 0 613 IRR CFX \$

Ring Reminder Off/On Option per Line (continued)

Limits

Ring Reminder Off/On Option per Line does not have limits.

Interactions

Ring Reminder Off/On Option per Line does not have functionality interactions.

Activation/deactivation by the end user

Ring Reminder Off/On Option per Line does not require activation or deactivation by the end user.

Billing

Ring Reminder Off/On Option per Line does not affect billing.

Station Message Detail Recording

Ring Reminder Off/On Option per Line does not affect Station Message Detail Recording.

Datafilling office parameters

Ring Reminder Off/On Option per Line does not affect office parameters.

Datafill sequence

The tables that require datafill to implement Ring Reminder Off/On Option per Line appear in the following table. The tables appear in the correct entry order.

Note: Use SERVORD to enter data in these tables. Datafill procedures or examples are not available. See “SERVORD” for an example of the procedure to use SERVORD to enter data in these tables.

Datafill requirements for Ring Reminder Off/On Option per Line

Table	Purpose of table
LENLINES	Line Assignment Table. This table contains, for each line with datafill, the site name assigned to the remote location, if the line is remote. This table contains the LEN of the party to which the DN is assigned, the DN and the signal type. This table contains the index in table LINEATTR and options assigned to the line.
IBNLINES	IBN Line Assignments Table. This table contains the line assignments for data channel links for the Bulk Calling Line Identification (BCLI) feature under the format name of BL.
KSETLINE	Business Set And Data-Unit Line Assignment Table. This table contains the DN appearances for business sets and data units.

Ring Reminder Off/On Option per Line (continued)

Tools for verifying translations

Ring Reminder Off/On Option for each Line does not affect tools for verifying translations.

SERVORD

This feature creates line option IRR. This line option turns off the ring reminder for MDC, RES, and POTS lines.

You can use the following Service Order System (SERVORD) commands with the IRR line option:

- ADO (add option)
- DEO (delete option)
- NEW (establish service)

SERVORD limits

Ring Reminder Off/On Option per Line does not have SERVORD limits.

SERVORD prompts

The SERVORD prompts you use to assign Ring Reminder Off/On Option per Line to a line appear in the following table.

SERVORD prompts for Ring Reminder Off/On Option per Line

Prompt	Valid input	Explanation
OPTION	IRR	Specifies the line option. Enter IRR for inhibit ring reminder.

Note 1: The system enters data in table LENLINES, IBNLINES, or KSETLINE when you use SERVORD to assign Ring Reminder Off/On Option for each Line.

Note 2: To assign option IRR to a business set line, assign the option to each DN key that requires the option. Do not assign option IRR to a feature option key.

SERVORD example for implementing Ring Reminder Off/On Option per Line

The procedure to add Ring Reminder Off/On Option per Line to a current line with the ADO command appears in the following SERVORD example.

Ring Reminder Off/On Option per Line (end)

SERVORD example for Ring Reminder Off/On Option per Line in prompt mode

```
S0:  
> ADO  
SONUMBER: NOW 90 1 2AM  
>  
DN_OR_LEN:  
> 7211000  
OPTION:  
> RR  
OPTION:  
> $
```

SERVORD example for Ring Reminder Off/On Option per Line in no-prompt mode

```
> ADO $ 7211000 IRR $
```

Separate SMDR Output Files by Cust Group

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS11 and later versions

Requirements

The Separate SMDR Output Files by Cust Group feature requires BAS Generic, BAS00003.

Description

The Separate SMDR Output Files by Cust Group feature allows customer groups to have separate Station Message Detail Recording (SMDR) files. A maximum of 12 customer groups can have a separate SMDR file. This feature allows large IBN customer groups to process the data of that IBN customer group. These IBN customer groups send the data to the other customer groups on tape or over data links. Separate SMDR files allow the operating companies to provide each customer group with call detail data.

The Separate SMDR Output Files by Cust Group feature is an extension of specified capabilities. Feature BR0368, Separate Output File for DEX/SMDR Data provides these capabilities. The Separate Output File for DEX/SMDR Data feature allows the system to define two separate call data streams. This feature allows the system to select the call data types that each stream can store. A call data type is the type of call recording data that a specified feature generates. This call data type contains the following features:

- central automatic message accounting (CAMA)
- local automatic message accounting (LAMA)
- SMDR

A call data stream is a file that contains the following properties:

- the location and name of the data
- the backup device of the data stream
- the type of record the system must store

Tables DIRPPOOL (DIRP Pool) and DIRPSSYS (DIRP Subsystem) provide the characteristics of the stream. Table CRSFMT (Call Record Stream Format) provides the complete format of the stream. The format contains

Separate SMDR Output Files by Cust Group (continued)

headers and restart records. Table CRSMAP (Call Record Stream Mapping) provides the call data types that each stream can store. See "Datafill procedure" in this feature description.

Note: The Separate SMDR Output Files by Cust Group feature. Problems occur when a customer without a defined stream generates SMDR. The system can dump SMDR records to a stream of another customer group.

Operation

The Separate SMDR Output Files by Cust Group feature operates like the Station Message Detail Recording feature. With this feature, the system generates a separate SMDR file/record for each customer in the customer group. Any separate customer in the customer group can process the data on tape. The system can record the data on tape. The system can dump the data at intervals from disk to tape. Customers can access the SMDR files over data links.

Translations table flow

The Separate SMDR Output Files by Cust Group feature does not affect translations table flow.

Limits

The Separate SMDR Output Files by Cust Group feature does not have limits.

Interactions

The interactions between the Separate SMDR Output Files by Cust Group feature and other functionalities appear in the following paragraphs.

The Separate SMDR Output Files by Cust Group feature interacts with the feature BV0463, Station Message Detail Recording. The Separate SMDR Output Files by Customer Group feature interacts with the feature BR0368, Separate Output File for DEX/SMDR Data. Refer to "Station Message Detail Recording" and "Separate Output File for DEX/SMDR Data" for additional information on these features.

Activation/deactivation by the end user

The Separate SMDR Output Files by Cust Group feature does not require activation or deactivation by the end user.

Billing

The Separate SMDR Output Files by Cust Group feature does not affect billing.

Separate SMDR Output Files by Cust Group (continued)

Station Message Detail Recording

The Separate SMDR Output Files by Cust Group feature does not affect Station Message Detail Recording.

Datafilling office parameters

The office parameters used by Separate SMDR Output Files by Cust Group appear in the following table. Refer to the *Office Parameters Reference Manual* for additional information about office parameters.

Office parameters used by Separate SMDR Output Files by Cust Group

Table name	Parameter name	Description and action
OFCENG	NUM_CALLREC_STREAMS	Specifies the number of streams that you can enter in table CRSFMT. Enter a value from 1 to 15. The default value is 1.

Datafill sequence

Tables that require datafill to provide the Separate SMDR Output Files by Cust Group feature appear in the following table. The tables appear in correct entry order.

Datafill requirements for Separate SMDR Output Files by Cust Group

Table	Function of table
CRSFMT	Call Record Stream Format. This table defines the format characteristics for specified data streams.
DIRPPOOL	DIRP Pool. This table contains the group, or pool, of recording devices allocated to each subsystem that functions.
DIRPSSYS	DIRP Subsystem. This table defines the operating parameters of each subsystem that functions.
CRSMAP	Call Record Stream Mapping. This table defines the types of call recording data that route to the different streams.
CUSTSMDR	Customer Group SMDR Option. This table contains the SMDR options assigned to each customer group.

Datafilling table CRSFMT

Table CRSFMT (Call Record Stream Format) defines the format characteristics for specified data streams. Several billing streams can be in a specified switch. Enter data in table CRSFMT to define the data streams and the format for SMDR recording.

Separate SMDR Output Files by Cust Group (continued)

Datafill for Separate SMDR Output Files by Cust Group for table CRSFMT appears in the following table. The fields that apply to Separate SMDR Output Files by Cust Group appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CRSFMT

Field	Subfield or refinement	Entry	Description and action
FORMAT			Format This field specifies the SMDRFMT format. Enter SMDRFMT.
CDRSRCH			Call Detail Recording Search This field specifies the call detail recording search. Enter NIL_FM.

Datafill example for table CRSFMT

Sample datafill for table CRSFMT appears in the following example.

MAP example for table CRSFMT

TABLE: CRSFMT						
KEY	FORMAT	DATADUMP	CDRSRCH	ALARMS	TIMERDMP	TINTERVAL
SMDR	SMDRFMT	Y	NIL_FM	N	N	0

Datafilling table DIRPPPOOL

Table DIRPPPOOL (DIRP Pool) contains the group, or pool, of recording devices allocated to each of the contributing subsystems. Table DIRPPPOOL can contain a maximum of 32 pools. Each pool can contain a maximum of 24 recording volumes. Each entry in table DIRPSSYS indicates a pool in table DIRPPPOOL. One contributing subsystem can refer to each pool in table DIRPPPOOL. Enter data in table DIRPPPOOL to define the group of recording devices.

Datafill for Separate SMDR Output Files by Cust Group for table DIRPPPOOL appears in the following table. The fields that apply to Separate SMDR Output

Separate SMDR Output Files by Cust Group (continued)

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

Datafilling table DIRPPPOOL

Field	Subfield or refinement	Entry	Description and action
POOLNO			Pool Number This field indicates the index number for the recording pool. Enter a value from 0 to 63.
POOLNAME			Pool Name This field defines the name of the pool. This field is the index to table DIRPSSYS. Enter an alphanumeric name to a maximum of 8 characters.
POOLTYPE			Pool Type This field specifies the pool stores regular recording volumes. Enter REGULAR or PARALLEL.
DEVTYPE			Device Type This field specifies the device type for the pool. Enter TAPE, TAPEX, DISK, or DPP.

Datafill example for table DIRPPPOOL

Sample datafill for table DIRPPPOOL appears in the following example.

Separate SMDR Output Files by Cust Group (continued)

MAP example for table DIRPPPOOL

TABLE: DIRPPPOOL

POOLNO	POOLNAME	POOLTYPE	DEVTYPE	VOLUME0	VOLUME1	VOLUME2
VOLUME3	VOLUME4	VOLUME5	VOLUME6	VOLUME7	VOLUME8	VOLUME9
VOLUME10	VOLUME11	VOLUME12	VOLUME13	VOLUME14	VOLUME15	
VOLUME16	VOLUME17	VOLUME18	VOLUME19	VOLUME20	VOLUME21	
VOLUME22	VOLUME23					

0	AMAPPOOL	REGULAR	DISK	\$	\$	\$
\$	\$	\$	\$	\$	\$	\$
\$	\$	\$	\$	\$	\$	
\$	\$	\$	\$	\$	\$	
\$	\$					

Datafilling table DIRPSSYS

Table DIRPSSYS (DIRP Subsystem) defines the operating parameters of each of the contributing subsystem. Table DIRPSSYS can contain a maximum of 24 subsystems. The subsystems in table DIRPSSYS include the following features by default:

- Automatic Message Accounting (AMA)
- operational measurement (OM)
- journal file (JF) by default

These subsystems can contain a maximum of 21 other recording streams, depends on the DMS feature configuration.

Enter data in table DIRPSSYS to define the parameters for recording the data from each subsystem using DIRP.

Datafill for Separate SMDR Output Files by Cust Group for table DIRPSSYS appears in the following table. The fields that apply to Separate SMDR Output

Separate SMDR Output Files by Cust Group (continued)

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

Datafilling table DIRPSYS

Field	Subfield or refinement	Entry	Description and action
POOLNAME			Pool Name This field defines the name of the pool available to a contributing subsystem. This field is the index from table DIRPPPOOL. Enter an alphanumeric name with a maximum of 8 characters.
FILENAME			File Name This field defines the name of the file that holds the DIRP information. Enter an alphanumeric name with a maximum of 17 characters or \$.
PARLPOOL			Parallel Pool This field defines the correct parallel pool. This action occurs when table DIRPPPOOL defines parallel recording. Enter AMAPARL, DLOGPARL, JFPARL, OMPARL, or \$.

Datafill example for table DIRPSSYS

Sample datafill for table DIRPSSYS appears in the following example.

MAP example for table DIRPSSYS

TABLE: DIRPSSYS

```
SSYSNAME READRITER NUMFILES MINFILES POOLNAME  FILENAME
ALARM0 ALARM1 ALARM2 ALARM3 RETPD CRETPD PARLPOOL PARCONC
MANDPALM FILEDATE SHEDDAYS SHEDBASE SHEDINCR ROTACLOS
AUTOXFER SPACROTE MAXDFSIZ PRIORTIO
```

```
AMA          Y          2          1      AMAP00L      $
  CR      MJ      NA      NA      30      30      $      N
  NA      OPENED  NNNNNNN  0      NOROTATE  NONE
  NONE      N      64      Y
```

Separate SMDR Output Files by Cust Group (continued)

Datafilling table CRSMAP

Table CRSMAP (Call Record Stream Mapping) defines the types of call recording data that the system routes to each different streams.

Datafill for Separate SMDR Output Files by Cust Group for table CRSMAP appears in the following fields. The fields that apply to Separate SMDR Output Files by Cust Group appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CRSMAP

Field	Subfield or refinement	Entry	Description and action
KEY			Key This field specifies the known or operating company-defined call data type. The system routes to a stream. Enter SMDR for station message detail recording.
STREAM			Stream This field specifies the stream name in use in table CRSFMT. Enter SMDR.

Datafill example for table CRSMAP

Sample datafill for table CRSMAP appears in the following example.

MAP example for table CRSMAP

TABLE: CRSMAP			
		KEY	STREAM
		SMDR	SMDR

Datafilling table CUSTSMDR

Table CUSTSMDR (Customer Group SMDR Option) contains the SMDR options assigned to each customer group.

Datafill for Separate SMDR Output Files by Cust Group for table CUSTSMDR appears in the following table. The fields that apply to Separate

Separate SMDR Output Files by Cust Group (continued)

SMDR Output Files by Cust Group appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CUSTSMDR

Field	Subfield or refinement	Entry	Description and action
OPTIONS			Options This field specifies options and subfields assigned to the customer group. Enter SMDRCDT. Note: If OPTIONS is at SMDRCDT, subfields OPTION and SMDRCDT require datafill.
	OPTION		Option This subfield specifies the SMDR call data type option. Enter SMDRCDT.
	SMDRCDT		SMDR Call Data Type This subfield specifies the customer group SMDR call data type. Tables CRSFMT and CRSMAP must define this call data type. Enter the SMDR call data type.

Datafill example for table CUSTSMDR

Sample datafill for table CUSTSMDR appears in the following example.

MAP example for table CUSTSMDR

TABLE: CUSTSMDR		
CUSTNAME	BUSNSID	OPTIONS
BNR	3	(ANSTIM 15) \$

Tools for verifying translations

The Separate SMDR Output Files by Cust Group feature does not use tools for verifying translations.

Separate SMDR Output Files by Cust Group (end)

SERVORD

The Separate SMDR Output Files by Cust Group feature does not use SERVORD.

SMDR for ONI Lines

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS11 and later versions

Requirements

The SMDR for ONI Lines feature has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The SMDR for ONI Lines feature generates Station Message Detail Recording (SMDR) records for calls. The IBN lines that have the ONI option place these calls. When the originating IBN line has a specified billing number, the SMDR record contains the directory number (DN) of the calling IBN line.

The system assigns the ONI option to IBN lines. This event occurs when the customer selects the specified billing arrangement to occur when calling lines place a toll call. The system sends the information digit in the automatic number identification (ANI) spill to the toll office. This procedure identifies the caller as an ONI caller.

Toll calls in class 5 offices or private branch exchange (PBX) offices use the ONI option.

Operation

When an ONI line places a toll call, the system sends the information digit (ANI) to the office. This procedure identifies the line as an ONI line. The system queues the calling party for the next available operator. This operator is CAMA, TOPS, or TSPS. When the operator answers, the ONI end user provides the billing DN to the operator.

For a class 5 IBN line assigned the ONI option, the originating office does not produce SMDR records. The customer can allocate toll charges to specified callers. Toll charges depend on toll bills the customer receives each month from the telephone company.

For a PBX IBN line assigned the ONI option, the system does not produce SMDR records in the originating office. The customer cannot allocate toll

SMDR for ONI Lines (continued)

charges to specified callers based on toll bills the customer receives each month from the telephone company. This condition occurs because the system bills all toll charges to the listed DN (LDN) for the PBX. For class 5 and PBX-served IBN ONI lines, the SMDR records for private network access are not available.

Translations table flow

The SMDR for ONI Lines feature does not affect translations table flow.

Limits

The following limits apply to SMDR for ONI Lines:

- The ONI line option must not be a requirement to disable the recording of an SMDR record.
- The production of an SMDR record does not depend on the ONI option.
- The DN or the originating IBN station must be identified and placed in an SMDR record.
- The information digit 1 for ONI and the calling DN in the calling directory must not cause a spill of the information digit. The station number must not follow this spill.
- The production of SMDR records depends on the SMDR feature.

Interactions

The following paragraphs describe the interactions between the SMDR for ONI Lines feature and other functionalities.

The ONI option functions correctly (route to toll operator) in a class 5 office. In a class 5 office, the system does not create local automatic message accounting (LAMA) records for IBN ONI lines.

For class 5 office and PBX customers, the IBN system does not record the DN that callers provide to the operator for billing. The station DN in the SMDR record and the special billing DN in the bill from the telephone company cannot match. The SMDR records contain all calls.

Activation/deactivation by the end user

The SMDR for ONI Lines feature does not require activation or deactivation by the end user.

Billing

The SMDR for ONI Lines feature does not affect billing.

SMDR for ONI Lines (continued)**Station Message Detail Recording**

The SMDR for ONI Lines feature does not affect SMDR.

Datafilling office parameters

The office parameters used by SMDR for ONI Lines appear in the following table. Refer to the *Office Parameters Reference Manual* for additional information about office parameters.

Office parameters by SMDR for ONI Lines

Table name	Parameter name	Description and action
OFCENG	NO_OF_SMDR_REC_UNITS	Specifies the number of SMDR recording units required. Enter a value from 0 to 32 767. The default value is 2.
OFCOPT	SMDR_OFFICE	Specifies if the switching unit has the SMDR feature. Enter Y or N. The default value is N.
OFCVAR	SMDR_LOG_RPT	Specifies if the system SMDR billing information AMAB150 logs. Enter CHOICE, MAX_DUR, or NONE 0. The default value is NONE 0.
OFCENG	UNIQUE_BY_SITE_NUMBERING	Specifies if line module numbering for a site or for the complete switching unit. Enter Y or N. The default value is Y.
OFCOPT	USINGSITE	Specifies if the 4-character name assigned to the remote location is to appear in the input data. Enter Y or N. The default value is N.

SMDR for ONI Lines (continued)

Datafill sequence

The tables that require datafill to provide SMDR for ONI Lines feature appear in the following table. The tables appear in the correct entry order.

Datafill requirements for SMDR for ONI Lines

Table	Function of table
OFCENG	Office Engineering table. This table contains data on engineering parameters for the office. See "Datafilling office parameters" for how SMDR for ONI Lines affects office parameters.
OFCOPT	Office Options table. This table contains data on engineering parameters for the office. See "Datafilling office parameters" for how SMDR for ONI Lines affects office parameters.
OFCVAR	Office Variables table. This table contains data on engineering parameters for the office. See "Datafilling office parameters" for how SMDR for ONI Lines affects office parameters.
CUSTSMDR	Customer Group SMDR Option table. This table contains the SMDR options assigned to each customer group.
IBNFEAT	IBN Line Feature table. This table lists line features assigned to the IBN lines that appear in table IBNLINES. Note: Use SERVORD to enter data in this table. This table does not provide datafill procedure or example. See "SERVORD" for an example on how to use SERVORD to enter this table.

Datafilling table CUSTSMDR

Table CUSTSMDR (Customer Group SMDR Option) contains the SMDR options assigned to each customer group.

Datafill for SMDR for ONI Lines for table CUSTSMDR appears in the following table. The fields that apply to SMDR for ONI Lines appear in this

SMDR for ONI Lines (continued)

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

Datafilling table CUSTSMDR

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		SMDRCDT	Options This field specifies the list of options and subfields assigned to the customer group. Enter SMDRCDT. If OPTIONS contains SMDRCDT, subfields OPTION and SMDRCDT require datafill.
	OPTION	SMDRCDT	Option. This subfield specifies the SMDR call data type option. Enter SMDRCDT.
	SMDRCDT	SMDR call data type	SMDR Call Data Type. This subfield specifies the customer group SMDR call data type. Tables CRSFMT (Call Record Stream Format) and CRSMAP (Call Record Stream Mapping) must define this call data type. Enter the SMDR call data type.

Datafill example for table CUSTSMDR

Sample datafill for table CUSTSMDR appears in the following example.

MAP example for table CUSTSMDR

CUSTNAME	BUSNSID	OPTIONS
MDCGRP1	2	(ANSTIM 15) \$

Tools for verifying translations

The SMDR for ONI Lines feature does not use tools for verifying translations.

SERVORD

The SERVORD enters data in table IBNFEAT.

SERVORD limits

The SMDR for ONI Lines does not have SERVORD limits.

SMDR for ONI Lines (end)

SERVORD prompts

The SERVORD prompts that assign the SMDR for ONI Lines feature to a line appear in the following table.

SERVORD prompts for SMDR for ONI Lines

Prompt	Correct input	Description
OPTKEY	Key number 1 to 69 for MDC	Identifies key on business set or data unit that has an assigned option.
OPTION	ONI	Specifies that option ONI assigns to the line.

Note: The system enters data in table IBNFEAT when the use of SERVORD assigns the SMDR for ONI Lines feature.

SERVORD example to add the SMDR for ONI Lines feature

The following SERVORD example describes how the SMDR for ONI Lines feature adds to a line with the ADO command.

SERVORD example for SMDR for ONI Lines in prompt mode

```
S0:
> ADO
SONUMBER:    NOW 92  4   14  PM
>
DN_OR_LEN:
> 001810
OPTKEY:
> 1
OPTION:
> ONI
OPTKEY:
> $
```

SERVORD example for SMDR for ONI Lines in no-prompt mode

```
>ADO $ 0 0 18 10 1 ONI $
```

Station Activation of CFB/CFD

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS25 and later versions

Requirements

The Station Activation of CFB/CFD feature has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The Station Activation of CFB/CFD feature allows end users to activate and deactivate the following features from the station:

- call forward busy (CFB)
- call forward don't answer (CFD)

This feature introduces fixed and programmable types of the CFB and CFD features. The normal version of CFB and CFD is available. With normal CFB and CFD, activation and deactivation occurs through service orders. Table IBNFEAT (IBN Line Feature) or table KSETFEAT (Business Set and Data Unit Feature) can activate or deactivate normal CFB and CFD. The station end user cannot activate or deactivate normal CFB or CFD.

Operation

The Station Activation of CFB/CFD feature provides the following options. The term *remote DN* is the directory number (DN) that the system forwards calls.

- CFB fixed—allows end users to use a feature activation code to activate and deactivate CFB from the stations. The end user does not enter the remote DN. The remote DN is fixed. Datafill or service orders specify the remote DN.
- CFB programmable—allows end users to use a feature activation code to activate and deactivate CFB from the station. The remote DN is programmable. The end user enters the DN after the user dials the CFB feature activation code.

Station Activation of CFB/CFD (continued)

- CFD fixed—allows end users to use a feature activation code to activate and deactivate CFD from the stations. The end user does not enter the remote DN. The remote DN is fixed. Datafill or service orders specify the remote DN.
- CFD programmable—allows end users to use the feature activation code to activate and deactivate CFD from the stations. The remote DN is programmable. The end user enters the DN after the user dials the CFD feature activation code.

Translations table flow

The Station Activation of CFB/CFD translations tables appear in the following list:

- Table IBNFEAT (IBN Line Feature) lists features assigned to MDC lines that appear in table IBNLINES. Tuple datafill depends on the feature present. Tuple datafill is different for each feature.
- Table KSETFEAT (Business Set and Data Unit Feature) lists the features assigned to MBS lines that appear in table KSETLINE. Tuple datafill depends on the feature present. Tuple datafill is different for each feature.
- Table IBNXLA (IBN Translation) stores the data for the digit translation of calls from the following:
 - an MDC station
 - an attendant console
 - an incoming side of a two-way IBN trunk group

Datafill in use for the Station Activation of CFB/CFD appears in the following table.

Datafill example for Station Activation of CFB/CFD

Datafill table	Example data
IBNXLA	NTIXLA 123 FEAT N Y CFBP
IBNFEAT	HOST 00 0 10 6 CFX CFX CFB F N 6757000 N \$
KSETFEAT	HOST 00 1 18 08 SDN SDN 7211001 N 7211002 P 7211003 N

Station Activation of CFB/CFD (continued)

Limits

The following limits apply to Station Activation of CFB/CFD:

- This feature provides activation and deactivation of the CFB and CFD features by feature activation code only. This feature does not provide activation and deactivation of the features by feature keys on an MBS.
- Activation of the CFB programmable and CFD programmable options can occur again to the DN the last activation specified. This condition occurs when the station is an MBS. This event cannot occur on the 500/2500 telephone sets.

Interactions

The following features interact with Station Activation of CFB/CFD:

Call Forward Fixed

When a station has Call Forward Fixed (CFF) active, the CFF has priority over active CFB and CFD.

Call Forward Intragroup

When a station has Call Forward Intragroup (CFI) active, the CFI has priority over active CFB and CFD.

Call Forward Universal

When a station has Call Forward Universal (CFU) active, the CFU has priority over active CFB and CFD.

Call Forward Validation

Only the programmable versions of CFB and CFD function with the IBN Call Forward Validation (CFWVAL) feature (BR0549).

Directory Number Hunt

In BCS25, the CFD for Hunt Group Station feature (AD0906) allowed the assignment of CFD to occur to separate members of a directory number hunt (DNH) group. The Station Activation of CFB/CFD feature makes sure that CFD programmable can be assigned to a hunt group member. The CFB does not function with hunt groups.

Multiple Appearance Directory Number

The primary member of a multiple appearance directory number (MADN) group activates and deactivates CFB and CFD for the group.

Station Activation of CFB/CFD (continued)

Speed Calling

The system does not support the entry of a speed call cell number as the forward DN for fixed or programmable CFB and CFD.

Activation/deactivation by the end user

The following sections provide procedures that the end user performs to activate and deactivate the CFB fixed and CFB programmable options. The same method activates and deactivates the same CFD.

Call forward busy (fixed)

If the station has a data entry for the CFB fixed option, the end user can activate or deactivate the option at the station. The system deactivates the feature by default.

Activation/deactivation of Station Activation of CFB/CFD by the end user

To activate CFB, the end user performs the following steps:

At the telephone:

1. Go off-hook. The system returns a dial tone.
2. Dial the correct feature activation code. Table IBNXLA contains feature activation codes. The system returns a confirm treatment when the activation completes.

If CFB is already active, the system returns a negative acknowledgment (NACK) treatment. To recover, the end user must deactivate the feature and start again:

At the telephone:

1. Go on-hook.
2. Deactivate the CFB feature.
3. Go off-hook.

If the station does not have a data entry for CFB, the system returns a feature not allowed treatment.

Deactivation of call forward busy (fixed)

To deactivate CFB, the end user performs the following steps:

Station Activation of CFB/CFD (continued)

At the telephone:

1. Go off-hook. The system returns a dial tone.
2. Dial the correct feature deactivation code. Table IBNXLA contains feature activation codes. The system returns a confirm treatment.

Note: The system returns a confirm treatment if the CFB feature was active and inactive.

If the station does not have a data entry for CFB, the system returns a feature not allowed treatment. If entry of an incorrect feature code occurs, the system returns a vacant code treatment.

Call forward busy (programmable)

If the station has a data entry for CFB, the end user can activate, deactivate, or activate the option at the station. The system deactivates the feature by default.

Activation of call forward busy (programmable)

To activate CFB, the end user performs the following steps:

At your telephone:

1. Go off-hook. The system returns a dial tone.
2. Dial the correct feature activation code. Table IBNXLA contains feature activation codes. The system returns a special dial tone.

If CFB is already active, the system returns a NACK treatment. The end user performs the following steps:

At your telephone:

1. Go on-hook.
2. Deactivate the CFB feature.
3. Go off-hook.

If the station does not have a data entry for CFB, the system returns a feature not allowed treatment.

When the system returns a special dial tone, dial the DN of the remote station.

When the system stores the DN, the system returns a confirm treatment.

Note: When the entered DN is not the required DN, the system forwards the call to the incorrect party. To recover, the end user must deactivate and program the feature again.

Station Activation of CFB/CFD (continued)

Deactivation of call forward busy (programmable)

If the end user has a Meridian business set (MBS), the user can activate programmable call forward busy. The user can activate this feature to the remote DN the last activation specified. Deactivation of the CFB feature must occur before a reactivation can occur.

To activate CFB again, the end user performs the following steps:

At your telephone:

1. Go off-hook. The system returns a dial tone.
2. Dial the correct feature activation code. Table IBNXLA contains feature activation codes. The system returns a special dial tone.

If CFB is already active, the system returns a NACK treatment. The end user performs the following steps:

At your telephone:

1. Go on-hook.
2. Deactivate the CFB feature.
3. Go off-hook.

Billing

The Station Activation of CFB/CFD feature does not affect billing.

Station Message Detail Recording

The Station Activation of CFB/CFD feature does not affect Station Message Detail Recording.

Datafilling office parameters

The Station Activation of CFB/CFD feature does not affect office parameters.

Station Activation of CFB/CFD (continued)

Datafill sequence

Tables that require datafill to provide the Station Activation of CFB/CFD feature appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Station Activation of CFB/CFD

Table	Function of table
IBNXLA	IBN Translation. This table stores data for the digit translation of calls from one of the following: • IBN station • attendant console • incoming IBN trunk group • incoming side of a two-way IBN trunk group
IBNFEAT (Note)	IBN Line Feature. This table lists line features assigned to the IBN lines that appear in table IBNLINES.
KSETFEAT (Note)	Keyset Feature. This table lists the line features assigned to the business sets and data units (DU) that appear in table KSETLINE. This table describes the line features assigned to the Meridian digital telephone sets and DUs that appear in table IVDINV.
Note: Use SERVORD to enter data in this table. This document does not provide datafill procedure or example. See "SERVORD" for an example on how to use SERVORD to enter data in this table.	

Datafilling table IBNXLA

Datafill for Station Activation of CFB/CFD for table IBNXLA appears in the following table. The fields that apply to Station Activation of CFB/CFD 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	Description and action
KEY		see subfield	Key. This field contains subfields XLANAME and DGLIDX.
	XLANAME	character	Translator Name. This subfield specifies the name assigned to the translator. Enter the 1- to 8-character name.

Station Activation of CFB/CFD (continued)

Datafilling table IBNXLA (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Description and action
RESULT	DGLIDX	numeric	Digilator Index. This subfield specifies the access code. Enter the 1- to 18-digit number assigned as the access code.
		see subfield	Result. This field contains subfield TRSEL.
	TRSEL	FEAT	Translations Selector. This subfield specifies the translations selector to use. Enter FEAT.
		see subfields	If TRSEL is at FEAT, subfields ACR, SMDR, and FEATURE require datafill.
	ACR	Y or N	Account Code Entry. This subfield specifies the system requires an account code. Enter Y or N.
	SMDR	Y or N	Station Message Detail Recording. This subfield specifies if the system requires SMDR. Enter Y or N.
	FEATURE	character	Feature. This subfield specifies the feature assigned to a line. Enter CFBP, CFBC, CFDP, or CFDC.

Datafill example for table IBNXLA

Sample datafill for table IBNXLA appears in the following example.

MAP example for table IBNXLA

KEY		RESULT
NTIXLA	123	FEAT N Y CFBP
NTIXLA	124	FEAT N Y CFBC
NTIXLA	125	FEAT N Y CFDP
NTIXLA	126	FEAT N Y CFDC

Tools for verifying translations

The Station Activation of CFB/CFD feature does not use tools for verifying translations.

Station Activation of CFB/CFD (continued)

SERVORD

The Station Activation of CFB/CFD introduces a new prompt for CFB. This prompt is call forward busy control (CFBCNTL). This feature introduces a new prompt for CFD. This prompt is call forward don't answer control (CFDCNTL). The CFBCNTL and CFDCNTL prompts allow the following types of call forward busy and call forward don't answer:

- normal (N)
- fixed (F)
- programmable (P)

SERVORD limits

The Station Activation of CFB/CFD feature does not have SERVORD limits.

SERVORD prompts

The following table describes the SERVORD prompts that change the Station Activation of CFB/CFD feature.

SERVORD prompts for Station Activation of CFB/CFD

Prompt	Correct input	Description
CFBCNTL	N, F, P	Specifies the CFB type to be assigned. Enter N for normal, F for fixed, or P for programmable.
CFDCNTL	N, F, P	Specifies the CFD type to be assigned. Enter N for normal, F for fixed, or P for programmable.

Note: The system enters data in tables IBNFEAT and KSETFEAT. This action occurs when the assignment of the Station Activation of CFB/CFD feature occurs through SERVORD.

The following service order commands can operate the CFB and CFD features:

- ADO (add option)
- CHF (change feature information for feature that is already present)
- CHG (change translation/routing information)
- DEO (delete option)
- NEW (establish service)

Station Activation of CFB/CFD (continued)

Example service orders to provide Station Activation of CFB/CFD

The following service order example describes how to use the ADO command to add CFB with the fixed option to a current IBN line. The IBN line has a DN 722-2000. When the end user activates CFB, forwarded calls transfer to DN 722-1000.

SERVORD example to add Station Activation of CFB/CFD

The following SERVORD example describes how the ADO command adds Station Activation of CFB/CFD.

SERVORD example for Station Activation of CFB/CFD in prompt mode

```
S0:  
> ADO  
SONUMBER: NOW 90 1 1 AM  
>  
DN_OR_LEN:  
> 7222000  
OPTION:  
> CFB  
CFBCNTL:  
> F  
CFBDN:  
> 7221000  
OPTION:  
> $
```

SERVORD example for Station Activation of CFB/CFD in no-prompt mode

```
> ADO $ 7222000 CFB F 7221000 $
```

The following service order example describes how to use the ADO command to add CFB with the programmable option to a current line. The line has a DN 722-1001. The system does not prompt for the forward DN because the end user enters the DN when the user activates CFB.

Station Activation of CFB/CFD (continued)

SERVORD example for Station Activation of CFB/CFD in prompt mode

```

SO:
> ADO
SONUMBER: NOW 90 1 1 AM
>
DN_OR_LEN:
> 7221001
OPTION:
> CFB
CFBCNTL:
> P
OPTION:
> $

```

The following service order example describes how to use the ADO command to add CFB to a current IBN line. The line has a DN 722-1001. The system forwards calls transfer to DN 722-1000. The system activates normal CFB when the system performs a service order. The system deactivates normal CFB when the system removes the option from the line.

SERVORD example for Station Activation of CFB/CFD in no-prompt mode

```
>ADO $ 7221001 CFB P $
```

SERVORD example for Station Activation of CFB/CFD in prompt mode

```

SO:
> ADO
SONUMBER: NOW 90 1 1 AM
>
DN_OR_LEN:DN_OR_LEN:
> 7221001
OPTION:
> CFB
CFBCNTL:
> N
CFBDN:
> 7221000
OPTION:
> $

```

Station Activation of CFB/CFD (end)

SERVORD example for Station Activation of CFB/CFD in no-prompt mode

> ADO \$ 7221001 CFB N 7221000 \$

Station Message Detail Recording

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: not applicable

Release applicability

BCS08 and up

Prerequisites

To operate, Station Message Detail Recording requires BAS Generic, BAS00003.

Description

The Station Message Detail Recording (SMDR) feature provides the recording for IBN station-originated billable and non-billable calls. This recording is based on the access code dialed.

The SMDR feature uses a single-entry format. All relevant call details are organized into the proper output format upon call completion and written into the SMDR file. The SMDR call data is recorded in fixed-format records encoded in binary coded decimal (BCD) format. Any gaps in the records are filled with the hexadecimal (X) filler digit A.

Note: This feature description describes the feature that introduced SMDR in BCS08. For a complete description of current SMDR capabilities and datafill, refer to *Meridian Digital Centrex Station Message Detail Recording Reference Guide*, 297-2071-119.

Operation

All SMDR reports are produced when the proper software is present and when field SMDR in table IBNXLA (IBN Translations) opposite the desired access code contains the entry Y. Any station end user or attendant dialing an access code with the data field designated Y results in an SMDR report being produced.

An SMDR report may be produced from any direct outward dial (DOD) call originating within the assigned customer group. DOD calls are any of the following call types:

- direct distant dial (DDD) calls, including inward wide area telephone service (INWATS) and toll directory assistance
- international DDD (IDDD) calls (011+)

Station Message Detail Recording (continued)

- operator-assisted calls (0+ and 01+)
- operator-originated calls (0-)
- local directory assistance calls

Other types of calls that are specified using access or prefix codes can also be recorded.

Translations table flow

Station Message Detail Recording does not affect translations table flow.

Limitations and restrictions

Station Message Detail Recording has no limitations or restrictions.

Interactions

The following paragraphs describe the interactions between Station Message Detail Recording and other functionalities.

For trunk-to-trunk connections, the incoming trunk group common language location identifier (CLLI) and the trunk member number are recorded, as well as the number received from the originating office.

Special billing and direct inward system access (DISA) directory numbers (DN) are recorded.

When the SMDR feature is active and calls are forwarded, the base and station remote DNs are recorded.

SMDR applies to one or more legs of an attendant-established three-way call. Each leg is a separate record, with the attendant console number also being recorded.

SMDR applies to both legs of a transferred call. Call transfer is identified as an originating feature code on the second leg. Both ends of the resulting connection are billable.

Authorization and account codes are recorded as two separate records. If the authorization and account codes are combined, they are written as one record.

SMDR is independent of local automatic message accounting (LAMA).

If an attendant originates a call to both the source and the destination, and SMDR applies to both, two separate SMDR reports are generated. The console number is included in the reports.

Station Message Detail Recording (continued)

If the attendant answers an incoming call and dials a number to which SMDR is assigned, the following are recorded:

- the incoming trunk group CLLI and trunk member, if the call is from another switch
- the called number dialed by the attendant
- the console number

If operator number identification (ONI) applies to a called station, and SMDR also applies to the call, an SMDR record is also produced.

Activation/deactivation by the end user

Station Message Detail Recording requires no activation or deactivation by the end user.

Billing

Station Message Detail Recording does not affect billing.

Station Message Detail Recording

Read this feature for information on Station Message Detail Recording (SMDR).

Station Message Detail Recording (continued)

Datafilling office parameters

The following table shows the office parameters used by Station Message Detail Recording. For more information about office parameters, refer to *Office Parameters Reference Manual*.

Office parameters used by Station Message Detail Recording

Table name	Parameter name	Explanation and action
OFCOPT	CRS_PRU_POOL3_SIZE	Sets the number of SMDR recording units (extension blocks) required. This parameter replaces parameter NO_OF_SMDR_REC_UNITS in BCS35. Valid entries are from 0 to 131072. The default value is 100. A cold restart is only required to activate reductions to this parameter. In any case, the value of this parameter should be no less than the value of the parameter NO_OF_FTR_CONTROL_BLKs set in BCS34 and below. If a switch used in the United States (US) market, an operating company should set the parameter to 100. If the office is MDC stand-alone, (switches with 90 percent MDC lines) an operating company should set the parameter to 600. For non-US markets using North American translations and having all MDC lines assigned the SMDR option, an operating company should set this parameter to 80 percent of the value of the parameter NCCBS found in table OFCENG. For non-US markets using North American translations and having not all or none of the MDC lines assigned the SMDR option, an operating company should set this parameter to 30 percent of the number of MDC lines in customer groups without the MDRRAO feature (from table CUSTSMDR) plus the number of simultaneous calls for all customer groups with the MDRRAO feature which involve a DISA number or the account code feature.
OFCOPT	SMDR_OFFICE	If SMDR software is in the load and this office parameter is set to Y, SMDR call records will be generated. Enter Y or N. The default value is N. Activation is immediate.
OFCVAR	SMDR_LOG_RPT	Specifies whether SMDR billing information is printed in the AMAB150 log report as well as recorded on tape. Enter a value (separated by one space) for subfield CHOICE and for subfield MAX_DUR. Valid entries for CHOICE are NONE, ANS_ONLY, and ALL. Valid entries for MAX_DUR are from 0 to 32767. Activation is immediate.

Station Message Detail Recording (continued)

Datafill sequence

The following table lists the tables that require datafill to implement Station Message Detail Recording. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Station Message Detail Recording

Table	Purpose of tableU
CUSTSMDR	Customer Group SMDR Option. This table contains the SMDR options assigned to each customer group with office parameter SMDR_OFFICE in table OFCOPT set to Y
IBNXLA	IBN Translation. This table contains the digits of the MDC access codes and the options or features to which they belong.

Note: Refer to *Meridian Digital Centrex Station Message Detail Recording Reference Guide*, 297-2071-119, for more information on the operation and datafill for SMDR.

Datafilling table CUSTSMDR

Table CUSTSMDR (Customer Group SMDR Option) contains the SMDR options assigned to each customer group with office parameter SMDR_OFFICE in table OFCOPT set to Y. Table CUSTSMDR must be datafilled to list all the options assigned to the customer group. The actual datafill information for this table is dependent on the options assigned to the customer group.

The following table shows the datafill specific to Station Message Detail Recording for table CUSTSMDR. Only those fields that apply directly to

Station Message Detail Recording (continued)

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

Datafilling table CUSTSMR

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME			Customer Group Name This field specifies the customer group name. Enter the 1-to 16-character name assigned to the customer group.
BUSNSID			Business Identification Number This field specifies the business group number. This field is used only with the MDRRAO option. Valid entries are from 0 to 9999999999. The default value is 0.
OPTIONS			Options This field specifies the options assigned to a customer group. Valid entries are AMACUST (AMA customer group identification), ANSTIM (answer timing), AUTHAMA (authorization codes being recorded in the AMA stream) BC (bearer capability), DERVSMDR derived SMDR), ICC (independent common carrier), MDRRAO (MDR revenue accounting office), MSN (Meridian SuperNode), NERVE (network surveillance), NETWORK (network), PIN (personal identification number) POOL (pool name), RAO (record digits as outpulsed), RNA (record no answer), SMDRC DT (SMDR call data type), and TCN (travel card number).

Datafill example for table CUSTSMR

The following example shows sample datafill for table CUSTSMR.

Station Message Detail Recording (continued)

MAP display example for table CUSTSMR

TABLE: CUSTSMR

CUSTNAME

BUSNSID

OPTIONS

FASTRESTRICTED

0

(

RAO)

(

NERVE)

(

ANSTIM 15) (SMDRCDT CAMA)\$

Datafilling table IBNXLA

Table IBNXLA (IBN Translation) contains the digits of the MDC access codes and the options or features to which they belong. Table IBNXLA must be datafilled to include the appropriate translation selector for the SMDR feature.

The following table shows the datafill specific to Station Message Detail Recording for table IBNXLA. Only those fields that apply directly to Station Message Detail Recording are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table IBNXLA (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
KEY			Key
			This field consists of subfields XLANAME and DGLIDX.
	XLANAME		Translator Name
			This subfield specifies the name that is assigned to the translator. Enter the 1- to 8-character name.
	DGLIDX		Digilator Index
			This subfield specifies the access code. Enter the 1- to 18-digit number assigned as the access code.
RESULT			Result
			This field consists of subfield TRSEL.

Station Message Detail Recording (end)

Datafilling table IBNXLA (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	TRSEL		Translations Selector This subfield specifies the translations selector to be used. Enter FEAT. Note: If TRSEL is set to FEAT, subfields ACR, SMDR, VCDR, and FEATURE require datafill.
	ACR		Account Code Entry This subfield specifies whether an account code is required. Enter Y or N.
	SMDR		Station Message Detail Recording This subfield specifies whether SMDR is required. Enter Y or N.
	FEATURE		Feature This subfield specifies the feature assigned to a line. Enter SMDR.

Datafill example for table IBNXLA

The following example shows sample datafill for table IBNXLA.

MAP display example for table IBNXLA

TABLE: IBNXLA			
KEY		RESULT	
NTIXLA	123	FEAT	N Y N SMDR

Translation verification tools

Station Message Detail Recording does not use translation verification tools.

SERVORD

Station Message Detail Recording does not use SERVORD.

Station Message Waiting

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS15 and later versions

Requirements

To operate, Station Message Waiting requires BAS Generic, BAS00003.

Description

The Station Message Waiting feature provides notification to station users that the system queues a message against the directory number (DN) of the users. The feature allows a station user to dial an access code to access the station user or attendant. This station user or attendant activated the message waiting feature. This feature also allows the station user to activate message waiting on another 500/2500 set, link phone, or business set.

Message queuing indicates that a message is waiting. The message indication is a result of one or two causes:

- The customer group can define a message center to which the system directs all unanswered or busy calls to a station. If this condition occurs, the user dials the message center DN. For this application, the message center attendant controls the state of the message waiting activity on the DN.
- Use the message queuing capability to indicate to a station that another station requests a call. This station requests that the station call this other station. Refer to this feature use as call request. Call request provides a message queuing capability without the use of the message center. A station of the customer group must retrieve messages of the station.

Operation

When the system presents an unanswered or busy call to the message center, the attendant denotes the message. The attendant activates the link phone message waiting lamp for the called station before releasing the call. If the calling party does not want to leave a message, call release occurs.

The station user knows that a message is waiting if the message waiting lamp flashes. The station user knows a message is waiting if the station user hears a stuttered dial tone on attempted call originations.

Station Message Waiting (continued)

The station user can dial the access code and the message center DN to retrieve the message. The message center attendant answers and conveys the message. When the station user receives the message, the attendant deactivates the message waiting for that station.

A calling station can try to call an idle station and the station does not answer. If these conditions occur, the calling station can activate the call request feature. The calling station dials the call request activation code to activate the feature. When the calling station dials the activation code, the calling station hears a confirmation tone. The confirmation tone is two short tones. This tone indicates that the request is queued for the called station.

When the called station receives the call request indication, the station user can go off-hook and dial the call request retrieval code. The call request indication can be a message waiting lamp or stuttered dial tone on call originations. The calling station line rings.

The system supports multiple call requests on a station. If multiple call requests occur for a station, the system serves call request retrievals in the order of arrival. An originating station must meet the following conditions to activate the call request feature:

- The originating station has the call request feature.
- The originating station is not on the second leg of a three-way call.
- The terminating station is busy or does not answer.
- Denied termination is not a line option.
- The customer group has the call request feature.
- The terminator does not have the call request exempt option.
- The terminating station is in the same customer group, unless the following condition occurs. The intergroup call request option is selected in the customer group of the requestor.
- The station does not already have a call request queued against the station. If this condition occurs, the originator hears the confirmation tone like the call was being made again.

If the originator tries to make a request and all conditions are not met, the originator hears reorder tone. Call request retrieval is successful when the original called station dials the call request retrieval code and the original calling station answers.

If the original calling station does not answer or is busy, the call request remains queued. In this case, the calling station hears audible ring or busy

Station Message Waiting (continued)

tone. The call request indication remains on. The requestor moves to the bottom of the call queue after the call request attempt fails. An attempt can occur for the call request and the called party suspends station services. In this condition, the call request drops from the queue.

The call request feature deactivates if one of the following occurs:

- The original called station dials the call request deactivation code.
- The original calling station dials the call request deactivation code and the DN of the called station.

Translations table flow

Station Message Waiting does not affect translations table flow.

Limits

The following limits apply to Station Message Waiting:

- Message waiting for stations belonging to a multiple appearance directory number (MADN) group can have Station Message Waiting activated against the prime set only.
- For DN hunt groups, message waiting applies for the station.
- For directory and multiple line hunt, message waiting activates for the pilot number only.
- Each station in a DN hunt group can have the call request feature.
- Directory line and multiple line hunt groups are compatible with the call request feature. Stations in these hunt groups can be requestors.
- Call request activation can occur between customer groups. Customer group customers must make sure that the dial plans for each group are compatible.

Interactions

The following paragraphs describe the interactions between Station Message Waiting and other functionalities.

- Attendant-extended calls to a station do not follow the call forward no answer feature. If the station is idle, the system does not forward the attendant-extended call to the message center.
- Attendant-extended calls to a station do not follow the call forward busy feature.
- Attendant camp-on or call waiting applies if the customer group has the attendant camp-on feature or the call waiting feature.

Station Message Waiting (continued)

- Attendant-originated calls to a station follow the call forward no answer and call forward busy features. Attendants can queue for the message center.
- If attendants serving as the message center are in subgroup 0 and the attendants have the night service feature, the following occurs. The system does not forward calls. The system normally forwards calls to the message center. The system routes the message center attendants in subgroups 1 to 7 to subgroup 0.
- Recalls of queued calls are not subject to call forward no answer. These recalls can be ring again or call-back queuing.
- A station can have calls forwarded to another station or to the message center. Use call forward no answer or call forward busy to perform this action.
- An active call forward universal and call forward intragroup supersedes the call forward no answer and call forward busy features.
- A station can program all call forwarding to the message center with the call forward universal feature or the call forward intragroup feature.
- The do not disturb feature, the make set busy feature, and the ring again feature override the call forward feature. The message center does not apply to calls with the do not disturb feature activated.
- A station cannot use any of the call request feature functions if the station is on the second leg, add-on, of a three-way call.
- If the requestor has the do not disturb feature active and activates the call request feature, the following event occurs. The system serves the call request retrieval by the requestee.
- The requestor can activate the call forward universal or call forward intragroup. If this condition occurs, the call request retrieval feature does not follow the call forward universal or call forward intragroup features. If these two features are active, the system rings the requestor line. The requestor line must be idle.
- The call request retrieval feature does not follow the call forward busy/call forward don't answer features for a line. The requester must have these features for this condition to apply.
- The ring again and call request features are compatible. If a station has the ring again and call request features queued, feature operation is not ambiguous. The system serves the ring again feature if the station remains idle, even though the station is free to originate calls. If the station decides to originate a call, the call request retrieval code can be dialed.
- The call request retrieve feature bypasses assigned virtual facility groups .

Station Message Waiting (continued)

Activation/deactivation by the end user

Station Message Waiting does not require activation or deactivation by the end user.

Billing

Station Message Waiting does not affect billing.

Station Message Detail Recording

Station Message Waiting does not affect Station Message Detail Recording.

Datafilling office parameters

Station Message Waiting does not affect office parameters.

Datafill sequence

Tables that require datafill to implement Station Message Waiting appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Station Message Waiting

Table	Purpose of table
FNMAP	Attendant Console Functional Key table. This table assigns features to keys 2 through 43 on specified consoles.
IBNFEAT	IBN Line Feature table. This table lists line features assigned to the IBN lines listed in table IBNLINES. Note: Enter data in this table through SERVORD. A datafill procedure or example is not available. See "SERVORD" for an example of how to use SERVORD to enter data in this table.
IBNXLA	IBN Translation table. This table stores data for the digit translation of calls from an IBN station, attendant console or incoming IBN trunk group. This table also stores data for calls from the incoming side of a two-way IBN trunk group.
ICIDATA	Incoming Call Identification Data table. This table provides for flexible night service and the key and lamp display for each ICI number.

Datafilling table FNMAP

Table FNMAP (Attendant Console Functional Key) assigns features to keys 2 through 43 on specified consoles. Enter data in table FNMAP to define the key and lamp on the attendant console for the Station Message Waiting feature.

Datafill for Station Message Waiting for table FNMAP appears in the following table. Fields that apply to Station Message Waiting appear in this

Station Message Waiting (continued)

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

Datafilling table FNMAP

Field	Subfield or refinement	Entry	Explanation and action
RESULT		see subfields	Result. This field contains subfields KEYSEL and SPFN.
	KEYSEL	SPECL	Key Selector. This subfield specifies the key selector. Enter SPECL for special key selector.
	SPFN	MSGIND	Special Function. This subfield specifies the special function code for the message waiting feature. Enter MSGIND.

Datafill example for table FNMAP

Sample datafill for table FNMAP appears in the following example.

MAP display example for table FNMAP

KEY	RESULT
NETCONS 19	SPECL MSGIND

Datafilling table IBNXLA

Table IBNXLA (IBN Translation) stores the data for the digit translation of calls from an IBN station or an attendant console. Table IBNXLA (IBN Translation) also stores data for calls from an incoming IBN trunk group. Table IBNXLA (IBN Translation) also stores data for the incoming side of a two-way IBN trunk group. Enter data in table IBNXLA to make sure that call request activation, retrieval, delete all, and delete specific are defined. The Station Message Waiting feature requires the definition of these items.

Datafill for Station Message Waiting for table IBNXLA appears in the following table. Fields that apply to Station Message Waiting appear in this

Station Message Waiting (continued)

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

Datafilling table IBNXLA

Field	Subfield or refinement	Entry	Explanation and action
RESULT		see subfields	Result. This field contains many subfields. This feature affects only subfields TRSEL and FEATURE.
	TRSEL	FEAT	Translation Selector. This subfield specifies the translation selector. Enter FEAT.
	FEATURE	CRA, CRR, CRDA, or CRDS	Feature. This subfield specifies the features. Enter CRA (Call Request Activation), CRR (Call Request Retrieval), CRDA (Call Request Delete All), and CRDS (Call Request Delete Specific).

Datafill example for table IBNXLA

Sample datafill for table IBNXLA appears in the following example.

MAP display example for table IBNXLA

KEY		RESULT
FXNET	126	FEAT N N N CRA
FXNET	127	FEAT N Y N CRR
FXNET	128	FEAT N N N CRDA
FXNET	129	FEAT N N N CRDS

Datafilling table ICIDATA

Table ICIDATA (Incoming Call Identification Data) provides for flexible night service and the key and lamp display for each ICI number. You must enter data in table ICIDATA to include the ICI codes for the Station Message Waiting feature codes.

Station Message Waiting (continued)

Datafill for Station Message Waiting for table ICIDATA appears in the following table. Fields that apply to Station Message Waiting appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table ICIDATA

Field	Subfield or refinement	Entry	Explanation and action
KEY		see subfields	Key. This field contains subfields CUSTGRP and ICICODE.
	CUSTGRP	1- to 16-character name	Customer Group. This subfield specifies the customer group. Enter a 1- to 16-character name.
	ICICODE	0 to 255	Incoming Call Identification Code. This subfield specifies the ICI code. Enter a value from 0 to 255.

Datafill example for table ICIDATA

Sample datafill for table ICIDATA appears in the following example.

MAP display example for table ICIDATA

KEY	NAME	OPTIONS
NETWORK	20 MWAIT	(NSDIGS 5525123) \$

Tools for verifying translations

Station Message Waiting does not use translation verification tools.

SERVORD

Use the Service Order System (SERVORD) to assign the MWT option to a line.

Use SERVORD to enter data in table IBNFEAT. This table lists line features assigned to the IBN lines listed in table IBNLINES.

SERVORD limits

Station Message Waiting does not have SERVORD limits.

Station Message Waiting (continued)

SERVORD prompts

The SERVORD prompts that assign Station Message Waiting to a line appear in the following table.

SERVORD prompts for Station Message Waiting

Prompt	Correct input	Explanation
OPTION	MWT	Specifies the option to assign to the line. Enter MWT (message waiting).
NOTICE	STD, MWL, CMWL, or PRN	Specifies the type of message notification. The STD specifies stuttered dial tone. The MWL specifies message waiting lamp. The CMWL specifies CLASS message waiting indicator. The PRN specifies periodic ring notification.
CAR	Y, N	Specifies if the line has call request assigned. Enter Y.
CRRCFW	NO, ALL, DISPLAY	Specifies the handling of call forwarding if an end user activates call request. With NO, the system never forwards the call. With ALL, the system always forwards the call. With DISPLAY, the system forwards the call only if the end user has a display set.
CRX	Y, N	Specifies if the line has call request exempt assigned.

Note: The system automatically enters data in table IBNFEAT when SERVORD assigns Station Message Waiting.

SERVORD example for adding Station Message Waiting

You can use the ADO command to add Station Message Waiting to a line. This procedure appears in the following SERVORD example.

Station Message Waiting (end)

SERVORD example for Station Message Waiting in prompt mode

```
>ADO  
SONUMBER:    NOW 91  12  17  PM  
>  
DN_OR_LEN:  
> 1010  
OPTION:  
> MWT  
NOTICE:  
> SID  
CAR:  
> Y  
CRRCFW:  
> NO  
CRX:  
> N  
OPTION:  
> $
```

SERVORD example for Station Message Waiting in no-prompt mode

```
>ADO $ 1 0 1 0 MWT STD Y NO N $
```

Station Specific Auth Codes

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS22 and later versions

Requirements

To operate, Station Specific Auth Codes requires BAS Generic, BAS00003

Description

Station Specific Auth Codes (SSAC) provides the ability to limit authorization code use to a specified station. This restriction increases security. The authorization code links to the individual station. Use of the authorization code cannot occur from another location.

This feature is in use in dormitories, private residences, hospital rooms, and conference areas. In the past, an authorization code assigned to an end user was correct for any station in the customer group. These authorization codes were systemwide authorization codes.

In the university environment, the flexibility of authorization codes led to the abuse of long-distance authorization-code privileges. In many occurrences, end users had the ability to access authorization codes randomly through trial and error. The amount of available authorization codes in the university caused this condition.

Operation

Station Specific Auth Codes verifies the authorization code against the station from which the user dialed the code before SSAC allows the call. This condition eliminates authorization code abuse.

The SSAC is an optional feature. To operate, this feature requires the Authorization Codes (BV0494) feature, included in feature package NTX103AA.

Station Specific Auth Codes (continued)

Translations table flow

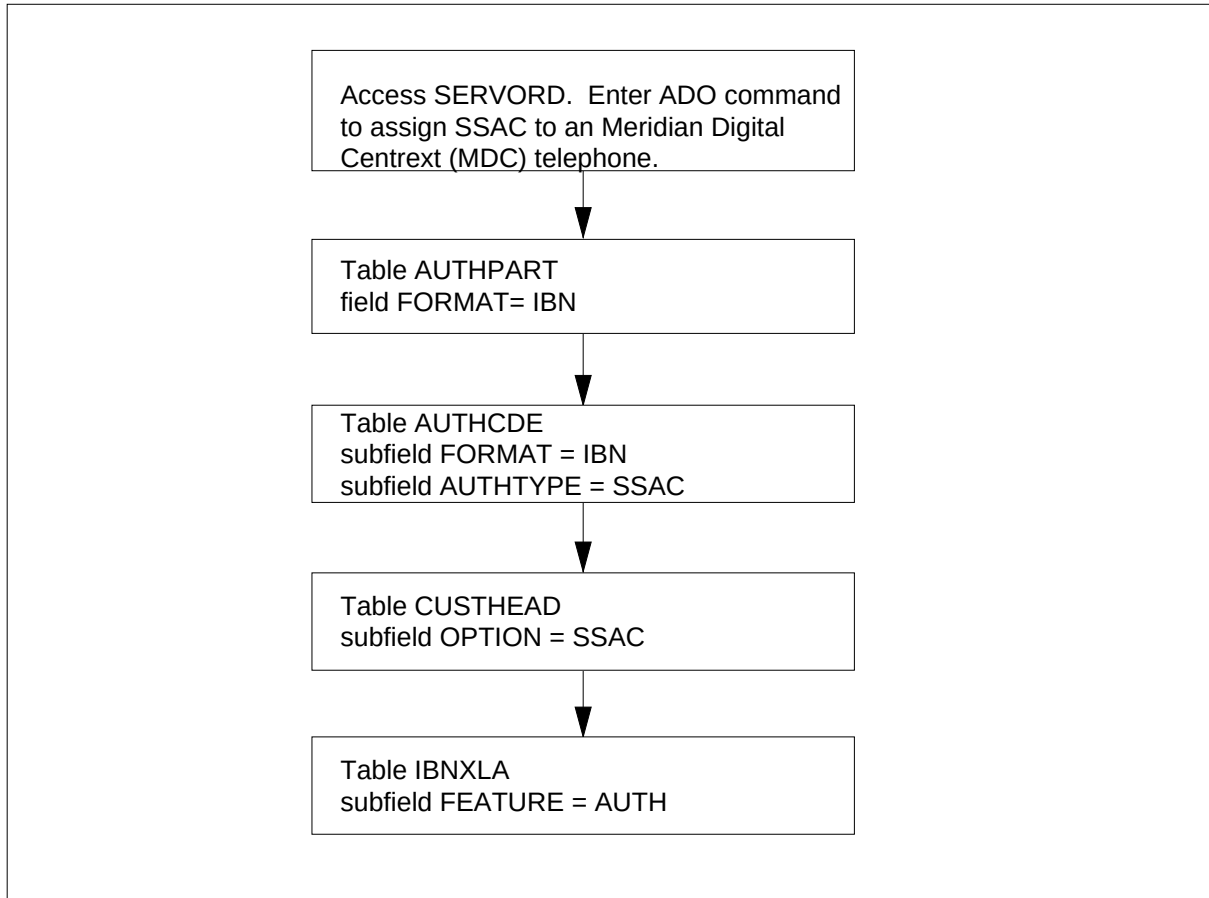
Descriptions of Station Specific Auth Codes translations tables appear in the following list:

- Entry of Table AUTHPART (Authorization Partition) must occur to define the partition for the authorization codes on a customer group base.
- Table AUTHCDE (Authorization Code) contains the authorization codes. The authorization codes are a set of digits that a user dials. This feature deals with SSAC. Entry of Table AUTHCDE must occur to define the authorization codes for stations with the Integrated Business Network (IBN) format.
- Table CUSTHEAD (Customer Group Head) defines the customer group parameters. This definition allows the dialing of a combined authorization and account code. This definition specifies the treatment number in Table IBNTREAT (IBN Treatment). The system routes calls with incorrect account or authorization codes to this treatment.
- Table IBNXLA (IBN Translation) contains IBN translations. Entry of Table IBNXLA must occur to translate the digits for calls that use an authorization code on an optional base.

The Station Specific Auth Codes translation process appears in the following flowchart.

Station Specific Auth Codes (continued)

Table flow for Station Specific Auth Codes



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

Datafill example for Station Specific Auth Codes

Datafill table	Example data
AUTHPART	DMT IBN 4 10
AUTHCODE	REGAUTH 4567 IBN 0 N 1234 SSAC \$
CUSTHEAD	REGIBNGRP REGXLA1 REGDGTC1 NIL (AUTH 05)
IBNXLA	NTIXLA 123 FEAT N Y N AUTH

Station Specific Auth Codes (continued)

Limits

The following limits apply to Station Specific Auth Codes:

- Multiple stations assigned to the same SSAC is often a requirement. If this condition occurs, each SSAC can have a maximum of seven stations.
- Each station can have a maximum of seven SSACs.
- Assignment of an SSAC to MADN or hunt group lines cannot occur.

Interactions

Descriptions of the interactions between Station Specific Auth Codes and other functionalities appear in the following paragraphs.

When an attendant console (AC) extends a call that originates from a station using SSAC, the only correct authorization code is the SSAC. The AC cannot use the AC authorization code.

Activation/deactivation by the end user

Station Specific Auth Codes does not require activation or deactivation by the end user.

Billing

Station Specific Auth Codes does not affect billing.

Station Message Detail Recording

Station Specific Auth Codes does not affect Station Message Detail Recording.

Datafilling office parameters

Station Specific Auth Codes does not affect office parameters.

Datafill sequence

The tables that require datafill to implement Station Specific Auth Codes appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Station Specific Auth Codes (Sheet 1 of 2)

Table	Purpose of table
AUTHPART	Authorization Partition. Entry of this table must occur to define the partition for the authorization codes on a customer group base.
AUTHCDE	Authorization Code. Entry of this table must occur to define the authorization codes for the stations with the IBN format.

Station Specific Auth Codes (continued)

Datafill requirements for Station Specific Auth Codes (Sheet 2 of 2)

Table	Purpose of table
CUSTHEAD	Customer Group Head. Entry of this table must occur to define the customer group parameters. This definition allows the dialing of a combined authorization and account code. This definition specifies the treatment number in Table IBNTREAT (IBN Treatment). The system routes calls with incorrect account of authorization codes to this treatment.
IBNXLA	IBN Translation. This table contains IBN translations. Entry of these translations must occur to translate the digits for calls that use an authorization code on a optional base.

Datafilling table AUTHPART

Entry of data in Table AUTHPART (Authorization Partition) must occur to define the partition for the authorization codes on a customer group base.

Datafill for Station Specific Auth Codes for table AUTHPART appears in the following table. The fields that apply to Station Specific Auth Codes appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table AUTHPART

Field	Subfield or refinement	Entry	Explanation and action
PARTHM		partition name	Partition Name. This field specifies the 1-character to 16-character character partition name for the customer group.
FORMAT		IBN	Format. This field specifies the format. Enter IBN.
LENGTH		2 to 10	Length of Authorization Code. This field specifies the number of digits in each authorization code within the partition. The correct range is from 2 to 10.
MAXSIZE		0 through 1 000 000	Maximum Size. This field specifies the maximum acceptable number of authorization codes that the partition can accommodate. The correct numbers are 0 through 1 000 000.

Datafill example for table AUTHPART

Sample datafill for table AUTHPART appears in the following example.

Station Specific Auth Codes (continued)

MAP example for table AUTHPART

PARTNM	FORMAT	LENGTH	MAXSIZE
DMT	IBN	4	10

Datafilling table AUTHCDE

Entry of data in table AUTHCDE (Authorization Code) must occur to define the authorization codes for stations with the IBN format.

Datafill for Station Specific Auth Codes for table AUTHCDE appears in following table. The fields that apply to Station Specific Auth Codes appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table AUTHCDE

Field	Subfield or refinement	Entry	Explanation and action
	FORMAT	IBN	Format. This subfield specifies the format. Enter IBN.
	AUTHTYPE	SSAC	Authorization Code Type. This subfield specifies the authorization code type. Enter SSAC.

Datafill example for table AUTHCDE

Sample datafill for table AUTHCDE appears in the following example.

MAP example for table AUTHCDE

AUTHPART	AUTHCODE	INFO
REGAUTH	4567	IBN O N \$ SW SSAC \$

Datafilling table CUSTHEAD

Entry of data in table CUSTHEAD (Customer Group Head) must occur to define the customer group parameters. This definition allows the dialing of a combined authorization and account code. This definition specifies the treatment number in Table IBNTREAT (IBN Treatment). The system routes calls with incorrect account or authorization codes to this treatment.

Station Specific Auth Codes (continued)

Datafill for Station Specific Auth Codes for table CUSTHEAD appears in the following table. The fields that apply to Station Specific Auth Codes appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CUSTHEAD

Field	Subfield or refinement	Entry	Explanation and action
	OPTION	AUTH	Option. This subfield specifies the option. Enter AUTH.
	PARTNM	AUTH partition name	Authorization Partition Name. This subfield specifies the name assigned to the customer group. Enter the correct AUTH partition name for the correct customer group.

Datafill example for table CUSTHEAD

Sample datafill for table CUSTHEAD appears in the following example.

MAP example for table CUSTHEAD

CUSTNAME	CUSTXLA	DGCOLNM	IDIGCOL	OPTIONS
REGIBNGRP	REGXLA1	REGDGTC1	NIL	(AUTH 05)

Datafilling table IBNXLA

Table IBNXLA (IBN Translation) contains IBN translations. Entry of data in table IBNXLA must occur to translate the digits for calls that use an authorization code on an optional base.

Datafill for Station Specific Auth Codes for table IBNXLA appears in the following table. The fields that apply to Station Specific Auth Codes appear

Station Specific Auth Codes (continued)

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

Datafilling table IBNXLA

Field	Subfield or refinement	Entry	Explanation and action
KEY		see subfields	Key. This field contains subfields XLANAME and DGLIDX.
	XLANAME	translator assigned name	Translator Name. This subfield specifies the name assigned to the translator. Enter the 1-character to 8-character name.
	DGLIDX	1-digit to 18-digit access code	Digilator Index. This subfield specifies the access code. Enter the 1 to 18 digit number assigned as the access code.
RESULT		see subfield	Result. This field contains subfield TRSEL.
	TRSEL	FEAT	Translations Selector. This subfield specifies the translations selector to use. Enter FEAT.
If TRSEL is FEAT, subfields ACR, SMDR, and FEATURE require datafill.			
	ACR	Y or N	Account Code Entry. This subfield specifies if an account code is a requirement. Enter Y or N.
	SMDR	AUTH	Feature. This subfield specifies the feature assigned to a line. Enter AUTH.
	FEATURE	AUTH	Feature. This subfield specifies the feature assigned to a line. Enter AUTH.

Datafill example for table IBNXLA

Sample datafill for table IBNXLA appears in the following example.

MAP example for table IBNXLA

KEY		RESULT
NTIXLA	123	FEAT N Y N AUTH

Tools for verifying translations

Station Specific Auth Codes does not use tools for verifying translations.

Station Specific Auth Codes (end)

SERVORD

Station Specific Auth Codes does not use SERVORD.

Station Specific Authcode - CDC Enhancements

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS25 and later versions

Requirements

To operate, Station Specific Authcode - CDC Enhancements requires BAS Generic, BAS00003.

Description

Station Specific Authcode - CDC Enhancement provides the controlled ownership of station-specific authorization codes (SSAC). Refer to "Station Specific Auth Codes" for a description of SSACs.

In many conditions, operating company personnel want online access to line data, trunk data, and other data. With the Customer Data Change (CDC) system, operating company personnel can have MAPs (maintenance and administration positions). With this system, operating company personnel can use the Service Order System (SERVORD) and table control to manage operating company personnel resources.

The CDC system allows online users access only to data that belongs to that user. The CDC system denies online users access to data that belongs to other users or to the operating company.

The original installation of the Station Specific Authcodes feature (BR0725) was released in BCS22. This installation did not include support for ownership. Operating company personnel did not manage operating company personnel SSACs. The personnel accessed other SSACs that other personnel owned.

Operation

The Station Specific Authcode - CDC Enhancement feature allows the CDC system to support SSAC management. This feature performs the following functions:

- The feature removes table SSAC (Station Specific Authorization Code). tables IBNFEAT (IBN Line Feature) and KSETFEAT (Business Set and Data Unit Feature) contain SSACs. The move of SSACs from table SSAC

Station Specific Authcode - CDC Enhancements (continued)

to tables IBNFEAT and KSETFEAT cause CDC support. These tables already support ownership of line equipment numbers (LEN).

- This feature allows the addition of SSACs to a directory number (DN). This feature allows the deletion of SSACs from a DN. This feature allows the modification of SSACs on a DN. The addition, deletion and modification of SSACs occurs through SERVORD.
- The feature removes the restriction of a maximum of one SSAC assigned for each keyset. A keyset is a telephone with multiple DN or feature keys, like a Meridian business set (MBS). The assignment of SSACs can occur to as many DN appearances on a keyset as required.

User interface

The SSAC command interface (CI) includes DN ownership checks. The ownership checks occur through table CDCDNS (Customer Data Change DN). The SSAC CI commands GEN and VIEW scan over input DN ranges. A screen of each DN for ownership occurs. Processing of the DN occurs if the DN passes the check.

The SSAC CI automatically checks the ownership of DNs. The DNs that are not owned do not appear to an end user that does not own the DN. The system ignores attempts to the GEN or VIEW DNs that end users do not own. Operating company personnel can view and edit all SSACs in the system.

Multiple DNs on a specified keyset can have SSACs assigned. The DNs must be in the range specified in the GEN command. Errors encountered during the GEN command assignment of SSACs with the GEN command appear.

Before this feature, SSAC CI changes to the SSAC database did not update the journal files. This feature generates journal file updates.

Translations table flow

Descriptions of Station Specific Authcode - CDC Enhancements translations tables appear in the following list:

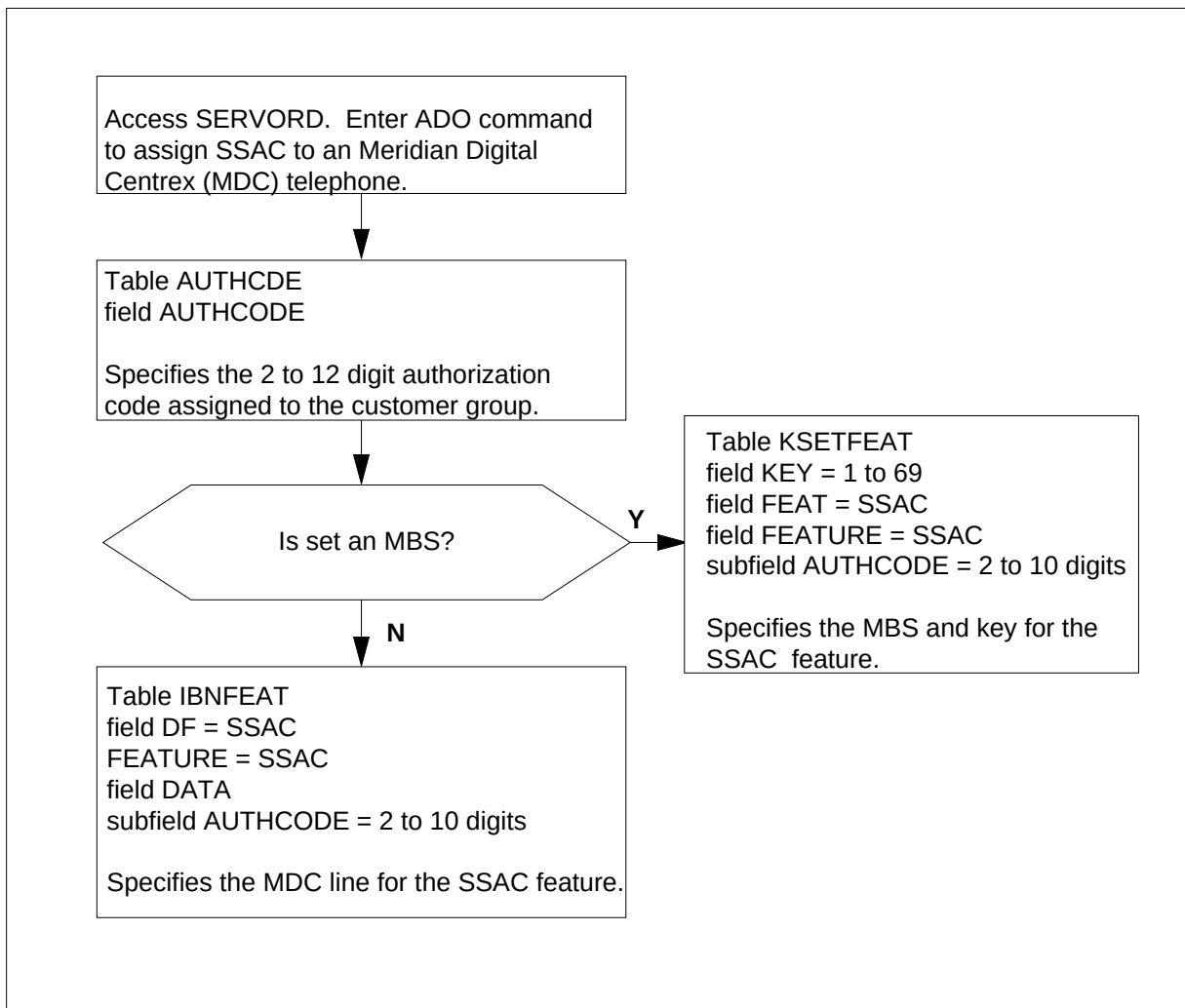
- Table AUTHCDE (Authorization Code) contains authorization codes. The authorization codes are a set of digits that a user dials. This feature deals with SSACs.
- Table KSETFEAT (Business Set and Data Unit Feature) contains the line features assigned to an MBS in table KSETLINE. One entry is a requirement for each feature assigned to a line. Entry of this table occurs when assignment of features occurs to the line in the SERVORD occurs.
- Table IBNFEAT (IBN Line Feature) contains the line features assigned to the MDC lines entered in Table IBNLINES (IBN Line Assignment). This

Station Specific Authcode - CDC Enhancements (continued)

table contains the DN and numbering plan area (NPA) of the line. The table contains the group name to which the DN belongs. The table contains options assigned to the DN. Entry of this table occurs when assignment of features occurs in SERVORD.

The Station Specific Authcode - CDC Enhancements translation process appears in the following flowchart. Option SSAC assigned to an MBS and 500/2500 set appears in the flowchart and data.

Table flow for Station Specific Authcode - CDC Enhancements



Station Specific Authcode - CDC Enhancements (continued)

The datafill content of the flowchart appears in the following table.

Datafill example for Station Specific Authcode - CDC Enhancements

Datafill table	Example data
AUTHCDE	REGAUTH 4567 IBN 0 N 1234 SSAC \$
KSETFEAT	HOST 0 0 1 1 2 SSAC SSAC 1234
IBNFEAT	HOST 0 0 1 1 0 SSAC SSAC 4567 1234 STD \$

Limits

Station Specific Authcode - CDC Enhancements does not have limits.

Interactions

Station Specific Authcode - CDC Enhancements is not compatible with DISA, multiline hunt groups, and MADNs.

Activation/deactivation by the end user

Station Specific Authcode - CDC Enhancements does not require activation or deactivation by the end user.

Billing

Station Specific Authcode - CDC Enhancements does not affect billing.

Station Message Detail Recording

Station Specific Authcode - CDC Enhancements does not affect Station Message Detail Recording.

Datafilling office parameters

Station Specific Authcode - CDC Enhancements does not affect office parameters.

Datafill sequence

The tables that require datafill to implement Station Specific Authcode - CDC Enhancements appear in the following table. The tables appear in the correct entry order.

Note: This feature removes table SSAC .

Station Specific Authcode - CDC Enhancements (continued)

Datafill requirements for Station Specific Authcode - CDC Enhancements

Table	Purpose of table
AUTHCDE	Authorization Code. For entries with IBN format, this table defines the following: - the authorization code - the network class of service (NCOS) - account option - security digits
IBNFEAT (Note)	IBN Line Feature. This table indicates line features assigned to the IBN lines in table IBNLINES.
KSETFEAT (Note)	Business Set and Data-Unit Feature. The line features assigned to the business sets and data units (DU) in table KSETLINE appear in this table. The Meridian digital telephone sets and DUs in table IVDINV also appear in this table.
Note: Use SERVORD to enter data in this table. A datafill procedure is not available. See "SERVORD" for an example of using SERVORD to enter data in this table.	

This feature adds option SSAC to field DF in table IBNFEAT. This feature also adds option SSAC to fields FEATKEY and FEAT in table KSETFEAT. Table IBNFEAT contains the feature assignments for standard 500/2500 telephone sets. Table KSETFEAT contains the feature assignments for each key on a keyset.

If you use SERVORD to add, change, or delete option SSAC, the DMS switch automatically updates tables IBNFEAT and KSETFEAT.

Datafilling table AUTHCDE

Datafill for Station Specific Authcode - CDC Enhancements for table AUTHCDE appears in the following table. The fields that apply to Station

Station Specific Authcode - CDC Enhancements (continued)

Specific Authcode - CDC Enhancements appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table AUTHCDE

Field	Subfield or refinement	Entry	Explanation and action
AUTHCODE		2 to 12 digit authorization code	Authorization Code. This field specifies the 2 to 12 digit authorization code for the customer group. Enter a 2 to 12 digit authorization code.
INFO		see subfields	Information. This field contains the subfields FORMAT, NCOS, ACCT, SECDIGS and AUTHTYPE.
	FORMAT	Enter IBN	Format. This field specifies the format. Enter IBN, where the authorization code is assigned to the customer group.
	NCOS	0 -511	Network Class of Service. This subfield specifies the network class of service associated with the authorization code. Correct entries are 0 through 511.
	ACCT	Y or N	Account Option. This subfield specifies if an account code is a requirement. Enter Y if an account code is a requirement. Enter N if an account code is not a requirement.
	SECDIGS	\$ or 1-4 digits	Security Code Digits. This subfield specifies if a nil security code is a requirement. If a nil security code is a requirement, enter \$. If a security code is a requirement, enter one to four digits as the security code.
	AUTHTYPE	SSAC	Authorization Code Type. This subfield specifies the authorization code type. Enter SSAC for a station specific authorization type.

Datafill example for table AUTHCDE

Sample datafill for table AUTHCDE appears in the following example.

Station Specific Authcode - CDC Enhancements (continued)

MAP example for table AUTHCODE

AUTHPART	AUTHCODE	INFO			
REGAUTH	4567	IBN	0	N	1234 SW \$

Tools for verifying translations

Station Specific Authcode - CDC Enhancements does not use tools for verifying translations.

SERVORD

Use SERVORD to enter data in tables IBNFEAT and KSETFEAT. Line features assigned to the IBN lines in table IBNLINES appear in table IBNFEAT. Line features assigned to the business sets and DUs in table KSETLINE appear in table KSETFEAT. The Meridian digital telephone sets and DUs in table IVDINV appear in table KSETFEAT.

The ADO (add option), DEO (delete option), and CHF (change feature information for current feature) SERVORD commands support the SSAC option. You can use SERVORD to assign a maximum of seven SSACs to a line. An SSAC is two to ten digits long. An SSAC contains digits 0 to 9.

SERVORD limits

Station Specific Authcode - CDC Enhancements does not have SERVORD limits.

SERVORD prompts

The SERVORD prompts you use to assign Station Specific Authcode - CDC Enhancement to a line appear in the following table.

SERVORD prompts for Station Specific Authcode - CDC Enhancements

Prompt	Valid input	Explanation
AUTHCODE	2 to 12 digits	Specifies the authorization code for the customer group. The AUTHCODE must contain the same number of digits as defined in field LENGTH of table AUTHPART.

Station Specific Authcode - CDC Enhancements (end)

SERVORD example for implementing Station Specific Authcode - CDC Enhancements

Application of the SSAC option to a line occurs with the entry of a maximum of seven SSACs. The addition of these authorization codes to the database must have occurred earlier. The SERVORD ADA (add an authorization code) command or entries in table AUTHCDE added the authorization codes to the database.

The addition of Station Specific Authcode - CDC Enhancements to LEN 2 1 2 22 appears in the following SERVORD example. The ADO command adds the Station Specific Authcode - CDC Enhancements.

SERVORD example for Station Specific Authcode - CDC Enhancements in prompt mode

```
S0:
> ADO
SONUMBER:    NOW 92  7   24  AM
>
DN_OR_LEN:
> 0 0 0 3
OPTION:
> SSAC
AUTHCODE:
> 4567
AUTHCODE:
> 78715
AUTHCODE:
> $
OPTION:
> $
```

SERVORD example for Station Specific Authcode - CDC Enhancements in no-prompt mode

```
>ADO $ 0 0 0 3 SSAC 4567 78715 $
```

The addition of SSACs to a line can occur in table IBNFEAT or table KSETFEAT. When you use SERVORD to administer SSACs, the system automatically updates these tables. Service order limits are present. The maximum number of authorization codes that SERVORD that you can assign to a DN through service orders is seven.. Tables IBNFEAT and KSETFEAT accept a maximum of ten authorization codes for each DN.

Stuttered Dial Tone for Message Waiting

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS15 and later versions

Requirements

To operate, Stuttered Dial Tone for Message Waiting requires BAS Generic, BAS00003.

Description

The station message waiting feature provides notification to station users when a message queues against the directory number (DN) of the station user. The feature allows a station user to dial an access code. The access code allows the station user to access the station user or attendant that activates the message waiting feature. This feature allows the station user to activate message waiting on another 500/2500 link, link telephone, or business set.

The message waiting lamp feature provides users of 500/2500 or link telephones sets with specified visual indication. The feature indicates that a message waits at the message center for the station of the user. The message waiting lamp is at different states during a call.

The Stuttered Dial Tone for Message Waiting feature notifies users of stations without message waiting lamps that a message waits. The message waits at the message center for the station of the user. A stuttered dial tone notifies the user. A stuttered dial tone is 160 ms of dial tone and 160 ms of silence.

Operation

When a not answered or busy call appears to the message center, the attendant denotes the message. The attendant activates the Stuttered Dial Tone for Message Waiting feature for the called station. The attendant releases the call. If the calling party does not want to leave a message, the attendant releases the call.

The station user knows a message waits when the user originates a call from the station and hears stuttered dial tone. The user does not hear normal dial tone.

Stuttered Dial Tone for Message Waiting (continued)

To retrieve the message, the station user can dial the access code and the message center DN. The message center attendant answers and conveys the message. When the station user receives the message, the attendant deactivates message waiting for the station. The removal of the stuttered dial tone from the DN of the station occurs.

Translations table flow

Stuttered Dial Tone for Message Waiting does not affect translations table flow.

Limits

The following limits apply to Stuttered Dial Tone for Message Waiting:

- Line modules (LM) and line concentration modules (LCM) support this feature.
- Line options specifying the stuttered dial tone option are a requirement for lines with this feature.

Interactions

The interactions between Stuttered Dial Tone for Message Waiting and other functionalities appear in the following paragraphs.

The Stuttered Dial Tone for Message Waiting feature interacts with the station message waiting and message waiting lamp features. The station message waiting feature defines the office parameters for the Stuttered Dial Tone for Message Waiting feature. If the station message waiting feature is not active, you cannot activate the Stuttered Dial Tone for Message Waiting feature.

Users on a normal two-port call only can hear the stuttered dial tone. If a station starts three-way calling or a conference feature, the user hears the normal dial tone. The user does not hear the stuttered dial tone.

Lines with stuttered dial tone and the message queued options receive stuttered dial tone at the time of origination. The system removes stuttered dial tone when the system receives the first dialed digit.

Activation/deactivation by the end user

Stuttered Dial Tone for Message Waiting does not require activation or deactivation by the end user.

Billing

Stuttered Dial Tone for Message Waiting does not affect billing.

Stuttered Dial Tone for Message Waiting (continued)

Station Message Detail Recording

Stuttered Dial Tone for Message Waiting does not affect Station Message Detail Recording.

Datafilling office parameters

Stuttered Dial Tone for Message Waiting does not affect office parameters.

Datafill sequence

The tables that require datafill to implement Stuttered Dial Tone for Message Waiting appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Stuttered Dial Tone for Message Waiting

Table	Purpose of table
IBNLINES (Note)	IBN Line Assignments table. This table contains the line assignments for data channel links for the Bulk Calling Line Identification (BCLI) feature under the format name of BL.
FNMAP	Attendant Console Functional Key table. This table assigns features to keys 2 through 43 on specified consoles.
IBNFEAT (Note)	IBN Line Feature table. This table lists line features that are assigned to the IBN lines table IBNLINES lists.
Note: Use SERVORD to enter data in these tables. A datafill procedure or example is not provided. See "SERVORD" for an example of using SERVORD to enter data in this table.	

Note: Enter data in these tables for the Stuttered Dial Tone for Message Waiting feature. Enter data in these tables for the station message waiting and message waiting lamp features. If the station message waiting feature is active, most tables required for implementing the Stuttered Dial Tone for Message Waiting feature must contain datafill.

Datafilling table FNMAP

Table FNMAP (Attendant Console Functional Key) assigns features to keys 2 through 43 on specified consoles. Enter data in table FNMAP to define the key and lamp on the attendant console. Define the key and lamp on the attendant console for the message waiting feature associated with stuttered dial tone.

Datafill for Stuttered Dial Tone for Message Waiting for table FNMAP appears in the following table. The fields that apply to Stuttered Dial Tone for Message

Stuttered Dial Tone for Message Waiting (continued)

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

Datafilling table FNMAP

Field	Subfield or refinement	Entry	Explanation and action
RESULT		see subfields	Result. This field contains subfields KEYSEL and SPFN.
	KEYSEL	SPECL	Key Selector. This subfield specifies the key selector. Enter SPECL for special key selector.
	SPFN	MSGIND	Special Function. This subfield specifies the special function code for the message waiting feature. Enter MSGIND.

Datafill example for table FNMAP

Sample datafill for table FNMAP appears in the following example.

MAP example for table FNMAP

KEY		RESULT	
NETCONS	19	SPECL	MSGIND

Tools for verifying translations

Stuttered Dial Tone for Message Waiting does not use tools for verifying translations.

SERVORD

Use SERVORD to enter data in tables IBNLINES and IBNFEAT.

SERVORD limits

Stuttered Dial Tone for Message Waiting does not have SERVORD limits.

Stuttered Dial Tone for Message Waiting (continued)

SERVORD prompts

The SERVORD prompts in use to assign Stuttered Dial Tone for Message Waiting appear in the following table.

SERVORD prompts for Stuttered Dial Tone for Message Waiting

Prompt	Valid input	Explanation
CAR	Y, N	Call request option.
CRRCFW	NO, ALL, DISPLAY	Call request retrieval call forwarding.
CRX	Y, N	Call request exempt.
NOTICE	MWL	Message waiting lamp.

Note: Use SERVORD to enter data in tables IBNLINES and IBNFEAT to assign Stuttered Dial Tone for Message Waiting.

SERVORD example for adding Stuttered Dial Tone for Message Waiting

The use of the ADO command for adding Stuttered Dial Tone for Message Waiting to a line appears in the following SERVORD example.

SERVORD example for Stuttered Dial Tone for Message Waiting in prompt mode

```
SONUMBER:   NOW 93  2   26  AM
>
DN_OR_LEN:
> 0198
OPTION:
> MWT
NOTICE:
> std
CAR:
> Y
CRRCFW:
> no
CRX:
> Y
OPTION:
> $
COMMAND AS ENTERED:
ADO NOW 93 2 26 AM HOST 00 1 09 08 ( MWT STD Y NO Y ) $
```


Stuttered Dial Tone for Message Waiting (end)

SERVORD example for Stuttered Dial Tone for Message Waiting in no-prompt mode

>ADO 0 1 9 8 MWT STD Y NO Y \$

Supervisory Console (Basic)

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS10 and later versions

Requirements

To operate, Supervisory Console (Basic) has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

Supervisory Console (Basic) allows an attendant to call a supervisor for help when the attendant handles a call. This feature allows an attendant to extend a call to a supervisor for call handling. The feature allows a supervisor to monitor the development of an attendant.

Operation

One key on a standard multiline set or call director monitors or assists each attendant console (AC). Cross connections are made to the voice pair of the AC. To monitor, the supervisor presses the key associated with the specified console. The supervisor can talk to the attendant when the attendant is active on the loop.

The attendants can call the supervisor or extend calls to the position through an extension number assigned to Supervisory Console (Basic). Attendants call the supervisor or extend a call to the supervisor like attendants call other station users.

Translations table flow

Supervisory Console (Basic) does not affect translations table flow.

Supervisory Console (Basic) (continued)

Limits

The following features interact with the Supervisory Console (Basic):

- Busy Verification/Position Busy/Night Service/Do Not Disturb - You cannot assign Busy Verification, Position Busy, Night Service, and Do Not Disturb to the multiline set keys.
- Directory Number (DN) - A listed DN can appear on one of the multiline set keys.
- Hunt Group - Two or more extension numbers on the supervisor console can form a hunt group.

Interactions

Supervisory Console (Basic) does not have functionality interactions.

Activation/deactivation by the end user

Supervisory Console (Basic) does not require activation or deactivation by the end user.

Billing

Supervisory Console (Basic) does not affect billing.

Station Message Detail Recording

Supervisory Console (Basic) does not affect Station Message Detail Recording.

Datafilling office parameters

Supervisory Console (Basic) does not affect office parameters.

Datafill sequence

The tables that require datafill to implement Supervisory Console (Basic) appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Supervisory Console (Basic)

Table	Purpose of table
IBNLINES	IBN Line Assignments table. This table contains the line assignments for data channel links for the Bulk Calling Line Identification (BCLI) feature under the format name of BL.
Note: Use SERVORD to enter data in this table. A datafill procedure or example is not available. See "SERVORD" for an example of using SERVORD to enter data in this table.	

Supervisory Console (Basic) (end)

Tools for verifying translations

Supervisory Console (Basic) does not use tools for verifying translations.

SERVORD

The system enters data in table IBNLINES through SERVORD.

Suspend and Restore Remote Call Forward Lines

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS28 and later versions

Requirements

To operate, Suspend and Restore Remote Call Forward Lines has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The Suspend and Restore Remote Call Forward Lines feature applies the current Service Order System (SERVORD) commands suspend and restore to remote call forwarding (RCF) lines. This feature allows an RCF end user to temporarily suspend service to a line. The operating company does not have to delete and assign an RCF directory number (DN) again. Suspend and Restore Remote Call Forward Lines saves time for SERVORD personnel. The feature eliminates data entry errors that can occur when service restores.

Operation

With Suspend and Restore Remote Call Forward Lines, you can suspend and restore RCF lines through the same SERVORD commands as non-RCF lines. The commands are as follows:

- Suspend (SUS)

Note: The system does not prompt for the line equipment number (LEN). The RCF DNs are not associated with hardware.

- Restore (RES)
- Query Directory Number (QDN)

Translations table flow

Suspend and Restore Remote Call Forward Lines does not affect translations table flow.

Suspend and Restore Remote Call Forward Lines (continued)

Limits

Suspend and Restore Remote Call Forward Lines does not have limits.

Interactions

Suspend and Restore Remote Call Forward Lines does not have functionality interactions.

Activation/deactivation by the end user

Suspend and Restore Remote Call Forward Lines does not require activation or deactivation by the end user.

Billing

Suspend and Restore Remote Call Forward Lines does not affect billing.

Station Message Detail Recording

Suspend and Restore Remote Call Forward Lines does not affect Station Message Detail Recording.

Datafilling office parameters

Suspend and Restore Remote Call Forward Lines does not affect office parameters.

Datafill sequence

Use SERVORD to enter data in this table. A datafill procedure or example is not available. See "SERVORD" for an example of using SERVORD to enter data in these tables.

Datafill requirements for Suspend and Restore Remote Call Forward Lines

Table	Purpose of table
CFW	Regular and Remote Call Forwarding. This table contains information on the Call Forwarding Feature. The Call Forwarding feature allows a subscriber to forward incoming calls automatically to a specified telephone number.
Note: Use SERVORD to enter data in this table. A datafill procedure is not available.	

Tools for verifying translations

Suspend and Restore Remote Call Forward Lines does not use tools for verifying translations.

SERVORD

Use SERVORD to enter data in table CFW.

Suspend and Restore Remote Call Forward Lines (continued)

Table Regular and Remote Call Forwarding (CFW) contains information on the Call Forwarding Feature. The Call Forwarding feature allows a subscriber to forward incoming calls to a specified telephone number.

The Suspend and Restore Remote Call Forward Lines feature applies the current SERVORD commands SUS and RES to RCF lines. The SUS command prompts for the DN and LEN when in use with non-RCF DNs. With RCF DNs, the system does not prompt for the LEN. The RCF DN is not associated with hardware.

SERVORD limits

Suspend and Restore Remote Call Forward Lines does not have SERVORD limits.

SERVORD prompts

Suspend and Restore Remote Call Forward Lines does not have SERVORD prompts.

SERVORD example for adding Suspend and Restore Remote Call Forward Lines

How to add Suspend and Restore Remote Call Forward Lines to a line through the SUS command appears in the following SERVORD example.

SERVORD example for Suspend and Restore Remote Call Forward Lines in prompt mode

```
S0:
> SUS
SONUMBER:   NOW 88  8   30  AM
>
DN:
> 7812684
```

SERVORD example for Suspend and Restore Remote Call Forward Lines in no-prompt mode

```
>SUS $ 7812684 0 10 00 01
```

Note 1: The system enters data in table CFW when you assign Suspend and Restore Remote Call Forward Lines using SERVORD.

Note 2: The system checks if the RCF DN is already in suspension. The SUS command applies to DNs that are not in suspension.

Suspend and Restore Remote Call Forward Lines (end)

Use of the RES command to restore a line to service with Suspend and Restore Remote Call Forward Lines appears in the following SERVORD example. With RCF DN's, the RES command appears like non-RCF DN's.

SERVORD example for restoring Suspend and Restore Remote Call Forward Lines in prompt mode

```
S0:  
> RES  
SONUMBER:    NOW 88  8   30  AM  
>  
DN:  
> 7812684
```

SERVORD example for Suspend and Restore Remote Call Forward Lines in no-prompt mode

```
> RES $ 7812684
```

Variable Stutter Dial Tone

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS36 and later versions

Requirements

To operate, Variable Stutter Dial Tone has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC Standard, MDC00003

Description

Variable Stutter Dial Tone allows the end user to set a stuttered dial tone from 1 to 7 s for MBS Message Waiting. When the interval elapses, the end user hears a continuous dial tone.

Operation

Before Variable Stutter Dial Tone, the end user was able to go off-hook with stuttered dial tone as a message waiting indication (MWI). When the end user performed this action, the end user heard continuous stuttered dial tone. This action occurs if a message queues. Stuttered dial tone stops when the end user enters digits. Autodialing devices receive continuous dial tone before the devices output digits. Variable Stutter Dial Tone allows stuttered dial tone as the MWI to interact with autodialing devices.

Stuttered dial tone contains a cadence of dial tone for 100 ms and silence for 100 ms. Some autodialers receive dial tone for longer than 100 ms before outputting digits. Variable Stutter Dial Tone allows an end user to set the length of time that the end user hears stuttered dial tone after the end user going off-hook. This action occurs before the end user receives continuous dial tone when the system queues a message against lines with stuttered dial tone as the MWI.

The end user can dial during the interval when the end user receives stuttered dial tone. If the end user does not retrieve the message queued against the line, the user can receive stuttered dial tone. This action occurs when the end user originates another call. If the end user flashes the hookswitch to access a feature, the user does receive stuttered dial tone.

Variable Stutter Dial Tone (continued)

You can set the length of time an end user hears stuttered dial tone before hearing continuous dial tone office-wide. The values for this setting are 1 to 7 s. This process occurs in office parameter `VARIABLE_STUTTER_DIALTONE_TIMING` in Table OFCVAR (Variable Office). The default value is 0. This value indicates that lines with stuttered dial tone as the MWI receive stuttered dial tone continuously if the system queues a message.

Translations table flow

Variable Stutter Dial Tone does not affect translations table flow.

Limits

The following limits apply to Variable Stutter Dial Tone:

- Variable Stutter Dial Tone only applies to 500/2500 sets.
- Variable Stutter Dial Tone only applies to lines with stuttered dial tone as the MWI. This feature does not affect lines with a lamp as the MWT.
- Variable Stutter Dial Tone does not work with ground start lines.
- Lines that do not have a universal tone receiver (UTR) for digit reception can have a perceptible dial tone start time under traffic. This condition is most possible on remotes that UTRs do not service.

A possible race condition can occur when the value in office parameter `VARIABLE_STUTTER_DIALTONE_TIMING` changes. This condition occurs when the value changes from a value that is not 0 to a 0 value. A line that a UTR does not service can be in the setup stage for stuttered dial tone when the value changes to 0. This condition causes a default value of 2 s of stutter dial tone to go to the line only for this origination. If a message queues after the next origination, continuous stutter dial tone occurs if the value is still 0. Lines that receive stutter dial tone when this value updates, use the same value until the next origination.

Interactions

The interactions between Variable Stutter Dial Tone and other functionalities appear in the following paragraphs.

When MBS Message Waiting is active, lines with MWT and stuttered dial tone as the MWI receive stuttered dial tone. The lines receive stuttered dial tone for the number of seconds you enter in office parameter `VARIABLE_STUTTER_DIALTONE_TIMING`.

Variable Stutter Dial Tone (end)

Activation/deactivation by the end user

Variable Stutter Dial Tone does not require activation or deactivation by the end user.

Billing

Variable Stutter Dial Tone does not affect billing.

Station Message Detail Recording

Variable Stutter Dial Tone does not affect Station Message Detail Recording.

Datafilling office parameters

You can set the length of time an end user hears stuttered dial tone before hearing continuous dial tone office-wide. The values for this setting are 1 to 7 s. Set this time in office parameter VARIABLE_STUTTER_DIALTONE_TIMING in Table OFCVAR. The default value is 0. This value indicates that lines with stuttered dial tone as the MWI receive continuous stuttered dial tone if the system queues a message.

The office parameters that Variable Stutter Dial Tone uses appear in the following table. Refer to *Office Parameters Reference Manual* for additional information about office parameters.

Office parameters by Variable Stutter Dial Tone

Table name	Parameter name	Explanation and action
OFCVAR	VARIABLE_STUTTER_DIALTONE_TIMING	This parameter specifies the number of seconds lines with stuttered dial tone as the MWI receive stuttered dial tone. This action occurs before the end user hears dial tone. The default value is 0. This value indicates continuous stuttered dial tone.

Datafill sequence

Variable Stutter Dial Tone does not use datafill.

Tools for verifying translations

Variable Stutter Dial Tone does not use tools for verifying translations.

SERVORD

Variable Stutter Dial Tone does not use SERVORD.

VFG INWATS Ovfl Totals to AMA Tape - IBN

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS25 and later versions

Requirements

To operate, VFG INWATS Ovfl Totals to AMA Tape - IBN has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

This feature implements INWATS overflow pegging on VFGs. This feature provides the ability to display and reset this information through the REGISTER level of the MAP display. In addition, the INWATS overflow audit in the DMS now generates automatic message accounting (AMA) records for VFG INWATS.

Before this feature, pegging counters were not assigned to VFGs in use for INWATS. The INWATS pegging was maintained only on plain old telephone service (POTS) INWATS lines.

Operation

In the DMS switch MDC environment, inward WATS (INWATS) the system routes calls by virtual trunk groups. The trunk groups are virtual facility groups (VFG). A VFG simulates a loop-around trunk. The use of a VFG avoids the requirement for loop-around trunks and provides virtual loop-around ability through software.

Wide area telephone services (WATS) are normally charged on the number of simultaneous active calls a subscriber can have on the WATS facilities. The VFGs restrict the number of simultaneous active calls to the entered size of each VFG, table VIRTGRPS. You must measure the data on VFG facilities. You must know the total number of successful and failed attempts to provide the correct number of facilities.

VFG INWATS Ovfl Totals to AMA Tape - IBN (continued)

TheVFG INWATS Ovfl Totals to AMA Tape - IBN counters increase when the following conditions occur:

- The call is an INWATS call to a VFG.
- A VFG member is not available for the call.

Do not confuse these counters with the VFG counters that the operational measurement (OM) system maintains. The OM group VFGUSAGE does not isolate INWATS VFG calls from other call types.

User interface

This feature provides two commands that display and reset VFG INWATS counters. The READVFG command displays the current overflow counts for VFGs. The READRESETVFG command resets overflow counts for VFGs to zero. These commands display the VFG name, the VFG billing number and the number of INWATS attempts to the VFG. These commands display the number of blocked, overflow, attempts to the VFG.

You access these commands from the REGISTER level of the MAP display. Refer to *Operational Measurements Reference Manual* for a description of the REGISTER level of the MAP display.

The command syntax for the READVFG and READRESETVFG commands appears in the following format.

READVFG	DN billing_number KEY vfg_name All

The READVFG command interrogates register content for INWATS VFGs. This command displays the VFG name, the billing number, the number of INWATS attempts, and the number of INWATS overflows.

Parameters for the READVFG command follow:

DN

specifies that the VFG with a specified billing number appears

VFG INWATS Ovfl Totals to AMA Tape - IBN (continued)

billing_number

is a billing number associated with a VFG in table VIRTGRPS and is entered as a string of 1 to 10 digits

KEY

specifies that the information for a specified VFG appears

vfg_name

is the name of a VFG you enter in table VIRTGRPS as a string of one to six characters

All

specifies that registers for all INWATS VFGs assigned in table VIRTGRPS appear

Responses

The requested INWATS VFG information appears.

READRESETVFG	<table><tr><td>DN</td><td>billing_number</td></tr><tr><td>KEY</td><td>vfg_name</td></tr><tr><td>All</td><td></td></tr></table>	DN	billing_number	KEY	vfg_name	All	
DN	billing_number						
KEY	vfg_name						
All							

The READRESETVFG command interrogates registers for specified INWATS VFGs, displays the current information, and resets the registers to zero.

Parameters for the READRESETVFG command follow:

DN

specifies that the system displays and zeroes VFG counts for a specified billing number. Assignment of VFG billing numbers occurs in table VIRTGRPS.

billing_number

is a billing number in table VIRTGRPS you enter as a string of 1 to 10 digits

VFG INWATS Ovfl Totals to AMA Tape - IBN (continued)

KEY

specifies that the system displays and zeroes VFG counts for a specified VFG

vfg_name

is the name of a VFG you enter in table VIRTGRPS and you enter as a string of one to six characters

ALL

specifies that registers for all INWATS VFGs assigned in table VIRTGRPS are to be displayed and then zeroed

When the user requests READRESETVFG, the system warns the user that the counters will be reset to zero. The system prompts the user to enter YES or NO to continue or to terminate the command. If the user enters YES, the requested INWATS VFG counts appear and are zeroed.

Responses

Examples of how to use the READVFG command at the REGISTER level of the MAP display appear in the following figures. The user types the command that follows the ">" at the MAP display. The DMS switch generates the other values in response to the commands the user enters.

READVFG ALL and READVFG KEY output

```

>REGISTER
REG:
>READVFG ALL
VFG NAME  BILLING NUMBER  INWATS ATTEMPTS
INWATS OVERFLOW
INWAT1    1234567890      25      6
INWAT2                525      89
INWAT3    7777901147     376      0
.
.
.
>READVFG KEY INWAT2
VFG NAME  BILLING NUMBER  INWATS ATTEMPTS
INWATS OVERFLOW
INWAT2                525      89

```

VFG INWATS Ovfl Totals to AMA Tape - IBN (continued)

READVFG DN output

```
>READVFG DN 9195552121
VFG NAME BILLING NUMBER INWATS ATTEMPTS
INWATS OVERFLOW
INWAT3    7777901147      376      0
```

Examples of the READRESETVFG command appear in the following figures. When you issue the READRESETVFG command, the system displays and zeroes all registers for that specified VFG. If you enter the READVFG command immediately, the display indicates that the system reset the registers to zero.

READRESETVFG ALL output

```
>REGISTER
REG:
>READRESETVFG ALL
WARNING—ALL SPECIFIED COUNTERS WILL BE RESET TO ZERO.
PLEASE
CONFIRM (YES or NO):
>YES
VFG NAME  BILLING NUMBER  INWATS ATTEMPTS
INWATS OVERFLOW
INWAT1                25      6
INWAT2    8100093201    525    89
INWAT3    7777901147    376     0
.
.
.
>READVFG ALL
VFG NAME  BILLING NUMBER  INWATS ATTEMPTS
INWATS OVERFLOW
INWAT1                0      0
INWAT2    8100093201     0     0
INWAT3    7777901147     0     0
.
.
```


VFG INWATS Ovfl Totals to AMA Tape - IBN (continued)

READRESETVFG DN output

```

>READRESETVFG DN 8100093201
WARNING—ALL SPECIFIED COUNTERS WILL BE RESET TO ZERO.
PLEASE
CONFIRM (YES or NO):
>YES
VFG NAME  BILLING NUMBER  INWATS ATTEMPTS
INWATS OVERFLOW
INWAT2    8100093201      525        89
INWAT9    8100093201      894       132
>READVFG DN 8100093201
VFG NAME  BILLING NUMBER  INWATS ATTEMPTS
INWATS OVERFLOW
INWAT2    8100093201        0         0
INWAT9    8100093201        0         0

```

Translations table flow

The VFG INWATS Ovfl Totals to AMA Tape - IBN does not affect translations table flow.

Limits

The following limits apply to VFG INWATS Ovfl Totals to AMA Tape - IBN:

- The INWATS periodic audit is present if the Bellcore AMA Format software package NTX159AA (LAMA) is present. If the package is not present, the system does not generate overflow AMA records. The VFG overflow counters are not zeroed out automatically. This condition is also true if the package is present but the audit is not scheduled in Table AMAOPTS (option OVERFLOW). If the office has Northern Telecom (Nortel) format data, you must reset the overflow counters manually through the READRESETVFG command.
- The VFG INWATS overflow counts survive warm and cold restarts. The overflow counts are initialized to zero on RELOAD restarts.

Interactions

The VFG INWATS Ovfl Totals to AMA Tape - IBN does not have functionality interactions.

Activation/deactivation by the end user

The VFG INWATS Ovfl Totals to AMA Tape - IBN does not require activation or deactivation by the end user.

VFG INWATS Ovfl Totals to AMA Tape - IBN (continued)

Billing

For operating companies that use Bellcore AMA format, an INWATS overflow audit runs periodically in the DMS switch. This audit generates INWATS overflow AMA records. Before this feature, the AMA records did not include INWATS overflow counts for VFGs. This feature provides overflow data for VFG INWATS and for POTS INWATS. The OVERFLOW tuple in table AMAOPTS controls the overflow audit.. When you set this tuple on a periodic base, the system generates INWATS overflow AMA records that call code 071 identifies. The system reports the overflow data against the billing number assigned to the VFG in table VIRTGRPS. If a billing number is not assigned, the counters are zeroed for the VFG. The system does not produce an overflow AMA record.

When the system generates the 071 AMA record, the system resets the overflow counts to zero. The overflow registers the REGISTER level of the MAP display uses, are zeroed at the same time. This audit is present if the NTX159AA—Automatic Message Accounting—Bellcore Format feature package is present in the switch.

The VFG INWATS overflow counters increase with or without thf the Bellcore Format AMA package. Without the Bellcore Format AMA package, the system does not produce VFG INWATS overflow AMA records. In addition, the overflow registers are not automatically zeroed. You must reset the registers manually from the REGISTER level of the MAP display.

INWATS calls that attempt to terminate to a VFG and fail, increase. The INWATS calls increase if the billing number is present or not present. The 071 AMA records only includes the data for VFGs with a billing number assigned. You can use the REGISTER level of the MAP display to view counters for VFGs without a billing number assigned.

Add the following information to the billing section:

- List the call codes, structure codes, or module codes that VFG INWATS Ovfl Totals to AMA Tape - IBN affects.
- Describe how the codes are triggered. What in the call processing or datafill causes the system to generate the code? If datafill triggers the codes, explain which table and field activates the code.
- Describe how specified fields in the AMA record relate to datafill values.
- Give an example output of the AMA record.
- Include a reference to *Bellcore Format Automatic Message Accounting Reference Guide*, 297-1001-830, if appropriate.

VFG INWATS Ovfl Totals to AMA Tape - IBN (continued)

Station Message Detail Recording

The VFG INWATS Ovfl Totals to AMA Tape - IBN does not affect Station Message Detail Recording.

Datafilling office parameters

The VFG INWATS Ovfl Totals to AMA Tape - IBN does not affect office parameters.

Datafill sequence

The tables that require datafill to implement VFG INWATS Ovfl Totals to AMA Tape - IBN appear in the following table. The tables appear in the correct entry order.

Datafill requirements for VFG INWATS Ovfl Totals to AMA Tape - IBN

Table	Purpose of table
AMAOPTS	AMA options. Use this table to control the activation and scheduling of the recording options for AMA.

Datafilling table AMAOPTS

Use table AMAOPTS to control the activation and scheduling of the recording options for AMA. Table AMAOPTS contains one tuple for each option, and initially contains the default values for each of these options.

Datafill for VFG INWATS Ovfl Totals to AMA Tape - IBN for table AMAOPTS appears in the following table. The fields that apply to VFG INWATS Ovfl Totals to AMA Tape - IBN appear in this 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		OVERFLOW	Option. This field specifies the overflow option. Enter OVERFLOW.
SCHEDULE		AMASEL	Schedule. This field contains subfield AMASEL.
	AMASEL	PERIODIC	AMA Selector. This subfield specifies the AMA selector. Enter PERIODIC.
Where AMASEL contains PERIODIC, subfields ONDATE, SCHED, and ONTIME require datafill.			

VFG INWATS Ovfl Totals to AMA Tape - IBN (end)

Datafilling table AMAOPTS (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	ONDATE	0 to 9 (a maximum of 6 digits)	Activation On Date. This subfield specifies the year. The month follows the year. The date on which the activation of the option contains ON follows the month. Enter the activation on date in the YYMMDD format.
	SCHED	see subfields	Periodic Schedule. This subfield contains subfields TV and TU.
	TV	0-255	Time Value. This subfield specifies the time value. Enter a value from 0 to 255.
	TU	HRS or MINS	Time Unit. This subfield specifies the time unit. Enter HRS or MINS.
	ONTIME	0 to 9 (a maximum of 6 digits)	Activation On Time. This subfield specifies the hour. The minute on which the activation of the option contains ON follows the hour. Enter the activation on time in the HHMM format.

Note: This feature adds an additional two words of data store for each VFG you enter in table VIRTGRPS. This condition brings the total to 17 words of data store for each VFG.

Datafill example for table AMAOPTS

Sample datafill for table AMAOPTS appears in the following example.

MAP example for table AMAOPTS

OPTION				SCHEDULE		
OVERFLOW	PERIODIC	930617	1 345	10	MINS	

Tools for verifying translations

The VFG INWATS Ovfl Totals to AMA Tape - IBN does not use tools for verifying translations.

SERVORD

The VFG INWATS Ovfl Totals to AMA Tape - IBN does not use SERVORD.

VFG Look Ahead

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS28 and later versions

Requirements

To operate, VFG Look Ahead has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The VFG Look Ahead feature allows the DMS switch to search for an idle virtual facility group (VFG) member. The search occurs when the switch can determine from the digits you dial that a VFG is a requirement. If the switch cannot find a VFG member, the system applies a customer group resource overflow (CGRO) treatment to the line. If the switch finds a VFG member, this call reserves the VFG member for use. This feature applies to Meridian Digital Centrex (MDC) and RES customers that access VFGs.

Operation

Background

A VFG is in use to restrict network access from customer groups to the local network or services like wide area telephone service (WATS). A VFG limits the number of incoming and outgoing calls the customer group can use at a time. This condition limits applies according to the trunks and lines to the rest of the serving central office.

Before this feature, the check for an available VFG member occurred only after all the digits were dialed. The VFGs are in use to provide WATS and network access. End users received treatment after dialing a long string of digits when only the VFG was busy.

When you enter this feature for a customer group, this feature can reserve a VFG member in advance. This feature can also provide the correct blocking treatment, like CGRO, when the end user dials digits. The CGRO is a treatment type. The treatment the customer hears is entered in table TMTCNTL (Treatments). Treatment occurs when the system determines that

VFG Look Ahead (continued)

a VFG member is a requirement to complete the call. If CGRO returns, this condition indicates to the end user that all VFG members are in use.

If the end user dials the remaining digits after reserving a VFG member, a second end user can try to access the VFG. When this condition occurs, the second user can receive CGRO. The second user receives CGRO when all but one VFG members are busy. The remaining VFG member is in reserve for the first end user.

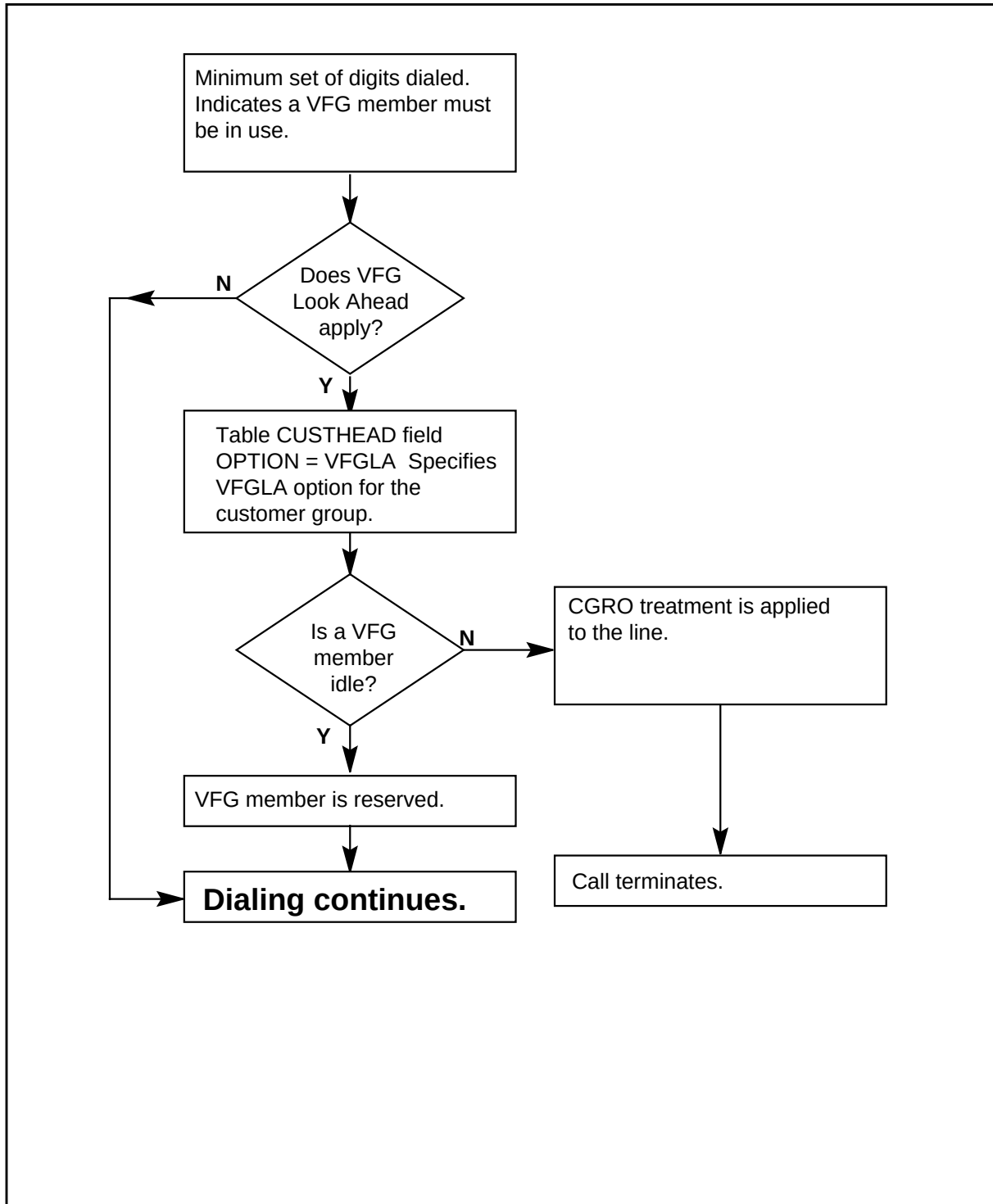
If the end user abandons a call before dialing all the digits, the reserved VFG member becomes idle. The VFG is available for the next call attempt.

Translations table flow

The VFG Look Ahead translation process appears in the flowchart that follows. Option VFGLA applied to the customer group appears in the flow chart and data. If the VFG member is idle, this condition determines the outcome of the call.

VFG Look Ahead (continued)

Table flow for VFG Look Ahead



VFG Look Ahead (continued)

The datafill content of the flowchart appears in the following table.

Datafill example for VFG Look Ahead

Datafill table	Example data
CUSTHEAD	MDCGRP1 CXT3 TST1 (VFGLA) \$

Limits

The following limits apply to VFG Look Ahead:

- The VFG Look Ahead processing applies to calls that go through MDC translations and yield a route selector or network selector . This condition indicates a VFG must be in use. Other translations, like example, plain old telephone service (POTS) that terminate to a VFG do not invoke VFG Look Ahead processing.
- The VFG Look Ahead only works with single-element route lists in which the only element is the VFG.
- This feature is only available to MDC and RES lines when VFGs are available in the office.
- This feature is not available for POTS lines.

Interactions

The interactions between VFG Look Ahead and other functionalities appear in the following paragraphs.

- Automatic Route Selection (ARS)

The VFG Look Ahead processing does not apply when the call origination uses automatic route selection.

- Call-Back Queuing (CBQ)

The VFG Look Ahead processing does not apply when the call origination uses call-back queuing.

- Off-Hook Queuing (OHQ)

The VFG Look Ahead processing does not apply when the call origination uses off-hook queuing.

Activation/deactivation by the end user

The VFG Look Ahead does not require activation or deactivation by the end user.

VFG Look Ahead (continued)

Billing

The VFG Look Ahead does not affect billing.

Station Message Detail Recording

The VFG Look Ahead does not affect Station Message Detail Recording.

Datafilling office parameters

The VFG Look Ahead does not affect office parameters.

Datafill sequence

The tables that require datafill to implement VFG Look Ahead appear in the following table. The tables appear in the correct entry order.

Datafill requirements for VFG Look Ahead

Table	Purpose of table
CUSTHEAD	Customer group head. This table defines the public and private transaction capability application part (TCAP) translator names for each customer group

Datafilling table CUSTHEAD

Table CUSTHEAD defines the public and private transaction capability application part (TCAP) translator names for each customer group. Table CUSTHEAD contains customer group option VFGLA. This option allows the application of the VFG Look Ahead processing for call originations in the correct customer group

VFG Look Ahead (continued)

Datafill for VFG Look Ahead for table CUSTHEAD appears in the following table. The fields that apply to VFG Look Ahead appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CUSTHEAD

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		alphanumeric 1 to 16 character	Customer Group Name. This field specifies the 1-character to 16-character alphanumeric name assigned to the customer group. Enter the customer group name.
CUSTXLA		alphanumeric 1 to 8 character	Customer Translator. This field specifies the 1-character to 8-character alphanumeric name assigned to the block of data (customer translator) in table IBNXLA. The block of data specifies the data for the translation of digits originating from an IBN station, attendant, incoming or incoming side of a two way trunk group. Enter the customer translator name.
DGCOLNM		alphanumeric 1 to 8 character	Digit Collection Name. This field specifies the 1-character to 8-character alphanumeric name assigned to the block of data in table DIGCOL. the block of data specifies the MDC digit collection for the MDC lines. Enter the digit collection name.
OPTION		VFGLA	Option. This field specifies the VFG look ahead option. Enter VFGLA.

Datafill example for table CUSTHEAD

Sample datafill for table CUSTHEAD appears in the following example.

MAP example for table CUSTHEAD

CUSTNAME	CUSTXLA	DGCOLNM	OPTION
MDCGRP1	CXT3	TST1	(VFGLA) \$

Tools for verifying translations

The VFG Look Ahead does not use tools for verifying translations.

VFG Look Ahead (end)

SERVORD

The VFG Look Ahead does not use SERVORD.

VFG Usage Data

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: does not apply

Release applicability

BCS15 and later versions

Requirements

To operate, VFG Usage Data requires BAS Generic, BAS00003.

Description

The VFG Usage Data feature adds a new register, VFGTRU, to the operational measurement (OM) group VFGUSAGE. Register VFGTRU provides information on the use of the virtual facility group (VFG). Users can record the registers for an extended time to understand the use of the VFG.

The VFG replaces the loop-around trunk group. This trunk group normally implemented incoming wide area telephone service (INWATS) and outgoing wide area telephone service (OUTWATS). Register VFGTRU provides traffic usage reports on the OUTWATS functions.

Operation

This feature adds the register VFGTRU to the current OM VFGUSAGE. This OM is like the traffic usage OM taken on trunk groups (TGTRU). The new register provides information on the amount of traffic on the VFG during the recording intervals. The counts occur at 100-s intervals. Registers increase when call processing is busy. The VFG Usage Data feature is an optional feature.

Translations table flow

The VFG Usage Data feature does not affect translations table flow.

Limits

The VFG Usage Data feature does not have limits limits.

Interactions

The VFG Usage Data feature does not have functionality interactions.

VFG Usage Data (end)

Activation/deactivation by the end user

The VFG Usage Data feature does not require activation or deactivation by the end user.

Billing

The VFG Usage Data feature does not affect billing.

Station Message Detail Recording

The VFG Usage Data feature does not affect Station Message Detail Recording.

Datafilling office parameters

The VFG Usage Data feature does not affect office parameters.

Datafill sequence

The VFG Usage Data feature does not affect datafill.

Datafilling tables

The VFG Usage Data feature does not affect tables.

Tools for verifying translations

The VFG Usage Data feature does not use tools for verifying translations.

SERVORD

The VFG Usage Data feature does not use SERVORD.

Virtual Office Worker (VOW)

Ordering codes

Functional group ordering code: MDC00003

Functionality ordering code: MDC00076

Release applicability

SN07 (DMS) and up

Prerequisites

Virtual Office Worker has no prerequisites.

Description

This feature allows telecommuters who do not have dedicated physical phone sets to access their dedicated directory number (DN) and associated features and options. They do this by logging into their dedicated DN from any of a pre-designated group of phone sets. Once logged in, all features and options operate normally, and all calls to the dedicated DN terminate to the set on which the login occurred. When logged in, all calls originated from the set are billed to the dedicated DN.

This feature enables a virtual office worker (VOW) to access the dedicated DN and features from any of a pre-designated group of Meridian business set (MBS), integrated voice and data (IVD), or integrated business network (IBN) phone sets. The VOW can access features and associated data assigned to the set and originate and receive calls using the dedicated DN. With this feature, a VOW can log into or log out of the dedicated DN from any set in the group of pre-designated sets. Provisioning, operational measurements, and log functionality and support is also provided.

In general, there is not a one-to-one relationship between VOWs and the physical sets used to access dedicated DNs and features. As an example, there may be 15 pre-designated sets for a particular customer group, allowing 15 VOWs to access their dedicated DN and features at a time. If all VOWs in this customer group require access to their dedicated DN and features only on one day a week during a 5-day work-week, then with the proper coordination, these 15 physical sets could support up to 60 VOWs each week.

Operation

Set-up

Ensure that feature SOC MDC00076 is turned ON for the office. Note that the SOC is always ON for MSL-100 load types.

Virtual Office Worker (VOW) (continued)

In order for VOW to function, the following must be datafilled and provisioned for each customer group that allows VOW functionality:

- The VOWDN feature must be datafilled in table CUSTSTN. The CUSTSTN tuple contains the following:
 - NCOS and SUBGRP values for translations purposes on the pre-designated VOW sets when no VOW is logged in
 - A boolean value specifying whether or not a VOW authorization code is required within the associated customer group during use of the VOWIN feature access code
 - A boolean value specifying whether the personal (SW) authorization code is required within the associated customer group during use of the VOWIN feature access code
 - A boolean value specifying whether the associated customer group is to be audited, and if so, a value specifying the hour of the day the audit is to occur
 - A boolean value specifying whether or not VOW functionality interacts with call forwarding to enable call forwarding for a VOW when logging out and to disable call forwarding for a VOW when logging in
 - The length of the VOW personal ID code (passcode) length values used to uniquely identify a VOW within a customer group
 - The line class code of the sets which make use of VOW functionality
- Feature translators VOWIN, VOWOUT, VOWPCC, and VOWROUT must be datafilled in table IBNXLA.
- VOW and SW authorization codes must be datafilled in table AUTHCDE. These codes are used with the VOWIN feature access code if the VOW authorization codes are enabled through the VOWDN tuple in table CUSTSTN.

Within customer groups that offer VOW functionality, a VOW's dedicated DN and features must be provisioned on a phone set pre-designated for use with VOW functionality. On this set, the line option VOW must be assigned. Assignment of the VOW line option includes the specification of the initial passcode for the associated VOW. Once assigned, the VOW is logged into the dedicated DN and features. The VOW's dedicated DN and features remain associated with the physical set on which they were provisioned prior to the assignment of the VOW line option. This association is maintained until the VOW logs out, or is logged out by the VOW audit.

Virtual Office Worker (VOW) (continued)

The value of the passcode associated with the VOW line option must have a length matching the PCCLLEN value in the associated VOWDN tuple in table CUSTSTN. Once a VOW's passcode has been set, it can be changed by the user through the use of the VOWPCC feature access code in table IBNXLA or by switch personnel by changing the VOWPID field in the appropriate tuple in table VOWINV. When changed, the passcode must still have a length matching the PCCLLEN value in the associated VOWDN tuple in table CUSTSTN.

If the value of the PCCLLEN field in the VOWDN tuple in table CUSTSTN changes, the associated VOWPID fields in table VOWINV is immediately impacted. If the PCCLLEN value is changed to a smaller value, then the VOWPID values for VOWs in the corresponding customer group are truncated to match the new PCCLLEN value. (For example, changing the PCCLLEN value from 6 to 4 changes a VOWPID value of 123456 to 1234.) If the PCCLLEN value is changed to a larger value, then the corresponding VOWPID values are right-padded with zeros up to the new PCCLLEN value. (For example, changing the PCCLLEN value from 6 to 8 changes a VOWPID value of 123456 to 12345600.)

Note: If the PCCLLEN value for a customer group is changed, all VOWs within the corresponding customer group must be notified of the resulting impact to their passcode values. If this notification does not occur, the VOWs within the customer group cannot log in.

All pre-designated sets that are to be used by VOWs need to have the VOWDN line option assigned within the customer groups that are to offer VOW functionality.

Switch personnel can log a VOW in or out of the dedicated DN and features through the use of CKLN or CLN SERVORD commands. When used, the CKLN or CLN commands work as they would normally, but a VOW LEN is provided as either the source or target LEN of the change LEN command.

Virtual Office Worker (VOW) (continued)

Practical VOW setup example

There are several ways to set up the VOW feature. This flexibility can potentially lead to confusion. To help avoid any confusion, a simple setup example is provided below.

1. For non-MSL loads, turn on the feature SOC MDC00076.
2. Datafill a VOWDN feature tuple in table CUSTSTN.
3. Datafill the VOWIN, VOWOUT, VOWPCC, and VOWROUT feature translators in table IBNXLA.
4. Datafill VOW and SW tuples in table AUTHCDE if required in the CUSTSTN tuple.
5. Choose two blank LENS which will eventually be used as the “drop-in” phones.
6. Using one of the blank LENSs, use the Servord NEW command to create the real set data for one of the VOW users. Add the VOW line option when the set is being created.
7. Using CKLN/CLYPN, move the newly created VOW user to a VOW LEN (VOW x y).
8. Repeat steps 6 and 7 until all four VOW users real set data has been defined and moved to a free VOW LEN.
9. Now use the Servord NEW command again to create the set data for the two “drop-in” phones using the same two blank LENSs. Add the VOWDN line option when the set is being created.

At this point, the two VOWDN “drop-in” phones are ready to make or receive calls, or to be used to login any of the four VOW users using the VOWIN access code.

Note that at the moment that a VOW user is logged in at one of the VOWDN “drop-in” phones, a new VOWDN tuple appears in table DNROUTE. This tuple can be considered as a placeholder for the VOWDN information. As soon as the VOW user logs out, the DNROUTE tuple is removed, and the VOWDN information is restored to the physical line.

VOW audit process

In the VOWDN tuple in table CUSTSTN, a customer group can specify whether an audit is to be run on the VOWs in the customer group every 24 hours, and if so, the specific hour at which the audit runs. If enabled, the audit runs at the specified hour every day, and logs out VOWs who are still logged in. Logs are generated and OMs are pegged to record any actions taken by the audit.

Virtual Office Worker (VOW) (continued)

If the set at which a VOW is logged in is not in an idle state when the audit runs, that VOW is not logged out by the audit. At the next hour, the audit checks the set again, and if the VOW is still logged in and the set is in an idle state, the audit logs the VOW out. If the VOW is still logged in and the set is not in an idle state, the audit attempts to log out the VOW at the next hour. This process repeats until the VOW is logged out, either manually or through the audit process.

VOWs who are logged out through the audit can log back in just as if they had logged themselves out.

Table VOWINV and CI command VOWCI

As sets/DNs are assigned the VOW and VOWDN line options, table VOWINV is automatically datafilled with information about the sets involved with VOW functionality. Tuples are not permitted to be added or deleted from this table through the TABLE editor. In addition, not all fields can be modified through the TABLE editor. The only field that can be modified is the VOWPID field, which contains a VOW's passcode. This field can be modified by switch personnel in order to reset a VOW's passcode, if necessary.

The VOWCI CI command provides alternate views of the data present in table VOWINV. For example, it can be used to list details on:

- the physical sets from which VOWs can log in
- the VOWs currently logged in or logged out data per customer group

VOW limits

Up to 20,500 VOWs can exist within a single switch, if all VOWs require only a single LEN. Within a customer group, there is no limitation on the number of VOWs, except for the maximum number per switch of 20,500. This limit facilitates having more actual VOWs (that is, VOW set data with the VOW line option assigned) than VOWDN sets (that is, physical sets with the VOWDN line option assigned).

IVD sets can be configured with a second (mate) LEN. If a VOW's dedicated DN and features are associated with such a set, then that VOW will require two VOW LENs, thus reducing the maximum possible number of VOWs.

Up to 4,095 VOWDNs can exist within a single switch. Within a customer group, there is no limitation on the number of VOWDNs, except for the maximum number per switch of 4,095.

Translations table flow

The Virtual Office Worker translations tables are described in the

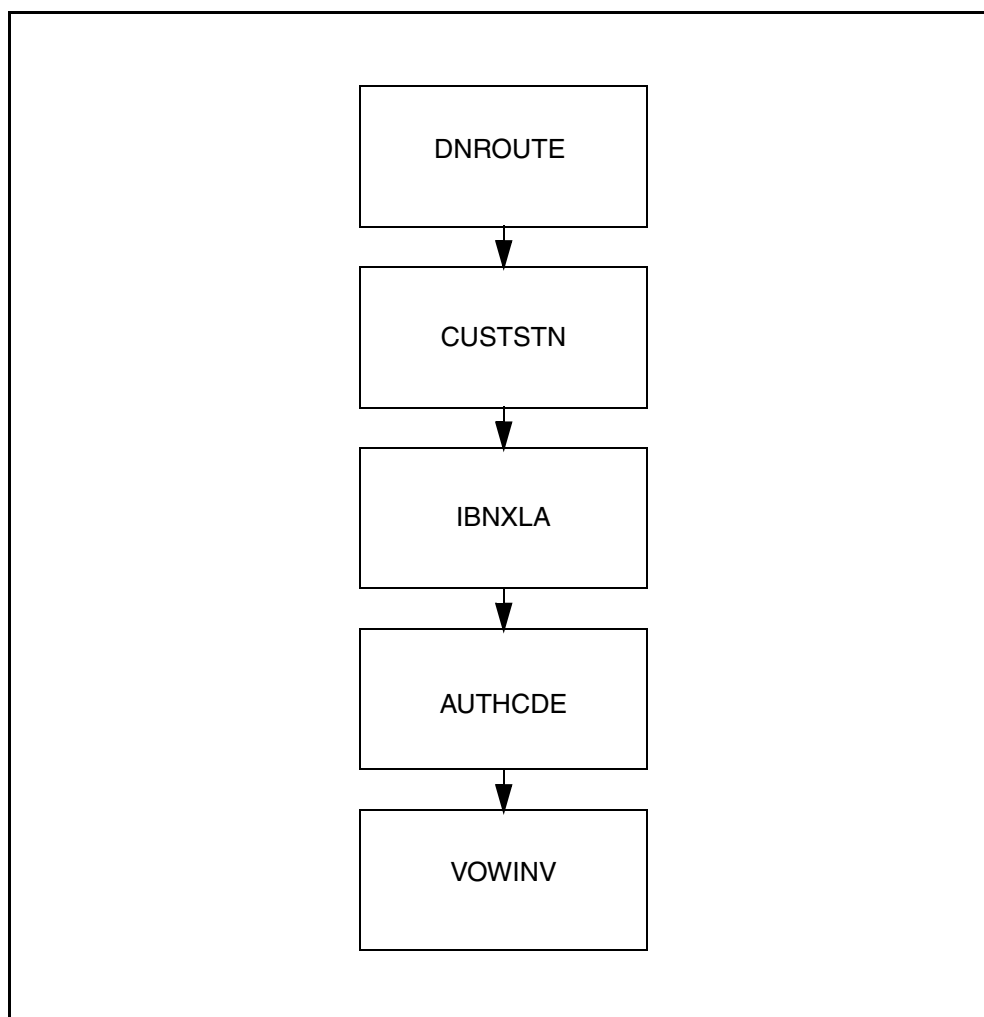
Virtual Office Worker (VOW) (continued)

following list:

- Table DNROUTE
- Table CUSTSTN
- Table IBNXLA
- Table AUTHCDE
- Table VOWINV

The figure that follows shows a flowchart of the Virtual Office Worker translation process.

Table flow for Virtual Office Worker (VOW)



Virtual Office Worker (VOW) (continued)

The table below lists typical datafill used in the tables of the flowchart.

Datafill example for Virtual Office Worker

Datafill table	Example data
DNROUTE	919 657 7293 FEAT VOWDN 23 BNRRTP (see Note)
CUSTSTN	BNRRCH VOWDN VOWDN 0 0 Y Y Y 0 Y 7 PSET BNRRTP VOWDN VOWDN 0 40 Y N N N 4 M2616
IBNXLA	FRCH 30 FEAT N N VOWIN FRCH 31 FEAT N N VOWOUT FRCH 32 FEAT N N VOWPCC
AUTHCDE	BNRRCH 7654321 IBN 0 N \$ VOW \$
VOWINV	BNRRCH VOW 2149975134 VOW 839943 VOW 2 66 N N IPE0 0 0 2 3 N (see Note)
Note: The datafill in tables DNROUTE and VOWINV is set automatically.	

Limitations and restrictions

The following limitations and restrictions apply to Virtual Office Worker.

- Up to 20,500 VOWs can exist within a single switch, if all VOWs require only a single LEN. Within a customer group, there is no limitation on the number of VOWs, except for the maximum number per switch of 20,500. This limit facilitates having more actual VOWs (VOW set data with the VOW line option assigned) than VOWDN sets (physical sets with the VOWDN line option assigned).
- IVD sets can be configured with a second (mate) LEN. If a VOW's dedicated DN and features are associated with such a set, then that VOW requires two VOW LENs, thus reducing the maximum possible number of VOWs.
- Within a customer group, all VOWs dedicated DNs and features must be associated with the same type of set. The pre-designated physical sets from which these VOWs log in must be of the same set type.
- The calls that can be originated from a set with VOWDN assigned are determined and restricted by the translations set up for the corresponding customer group and the NCOS and SUBGRP values in the VOWDN tuple in table CUSTSTN. Translations can limit these VOWDN sets to make only E911 calls, E911 and local calls, E911, local, and long distance calls, etc.

Virtual Office Worker (VOW) (continued)

- One DN is required for each set in a customer group that allows VOW functionality. The maximum number of VOWDN instances is 4095, which is shared by all the customer groups within the system.
- Once the VOW line option is assigned, the associated set can only be further provisioned with SERVORD commands when the associated VOW is logged in. If a VOW is logged out, the set data is associated with a VOW logical terminal instead of with a physical LEN, and any provisioning by switch personnel must be performed as follows:
 - Use the appropriate CKLN or CLN SERVORD command to move the set data from a VOW logical terminal to a physical LEN. This causes the VOW to be logged in to the specific physical LEN.

Note: The audit time should be considered when performing these actions. If these provisioning tasks are performed when the VOW audit runs for the associated customer group, the VOW user is effectively logged out by the audit process.

- Perform the required provisioning through SERVORD.
 - Use the appropriate CKLN or CLN SERVORD command to move the set data from the physical LEN back to a VOW logical terminal. This causes the VOW to be logged out of the previously specified LEN.
- A VOW login can occur only from a set with VOWDN assigned which is in the same customer group as the VOW's set data for the VOW who is attempting to log in.
- Due to the number of tables modified when moving VOW set data from a physical LEN to a virtual LEN and vice versa, access to VOW functionality through the VOWIN, VOWOUT, VOWROUT, and VOWPCC feature access codes are not allowed during an ONP. This is to ensure data consistency over a software upgrade. Once the ONP is complete, VOW access is again permitted.
- The VOW line option is not compatible with multiple appearance directory numbers (MADN), automatic call distribution (ACD), or hunt groups. It is also incompatible with the network facility access (NFA) line option and the following options: ACB, AR, BLF, C2USER, CALLOG, CPU, DLH, DNH, DOR, DRING, MDN, MLH, MPH, SBLF, SDN, SIMRING, SLU, TRANSFER, VOWDN, and XFER.
- The VOWDN option is not compatible with any other line options/features except SETMODEL, DGT, DISP, M0200, and NAME.
- Journal File recording is not fully supported by this feature. When VOW agents are logged in/out via CLN/CKLN, no journal file records will be

Virtual Office Worker (VOW) (continued)

generated. When log in/out occurs via feature access code, some records may be generated but they will be incomplete.

Interactions

This section describes the interactions between Virtual Office Worker and other functionalities.

When logged in, existing features associated with a VOW's dedicated DN operate as if the VOW's set were originally provisioned like the set from which the user logged in. This includes originating and receiving calls, billing, message waiting indication, and calling and caller name and number display.

When logged out, options associated with the VOW dedicated DN such as call forwarding operate as if the VOW were actually logged in, assuming that such features were active at the time the VOW logged out.

If the VOWDN tuple in table CUSTSTN enables the VOW functionality to interact with call forwarding, when a VOW logs out, call forwarding is activated. Similarly, when a VOW logs in, call forwarding is deactivated. This interaction applies only to the basic call forwarding types CFU, CFF, and CFI. It does not apply to any other call forwarding types such as CFK, CFB or CFD.

When logged out, VOW data is moved from a physical LEN to a virtual LEN. When this occurs, the DNs on a VOW's set data that was moved appear to the system to be in a busy (offline) state. As such, calls to logged out VOW DNs do not ring, but receive busy tones. The table that follows outlines how calls to a logged out VOW DN forward using CFB and CFD. As in normal call forward operation, and active CFU, CFF, CFI, and CFK call forwarding type takes precedence over active CFB and CFD call forwarding types on a logged out VOW's set data.

CFB/CFD interactions for logged out VOWs

	CFB active	CFB inactive	CFB not provisioned
CFD active	Calls are forwarded using CFD	Calls are forwarded using CFD	Calls are forwarded using CFD
CFD inactive	Calls are forwarded using CFB	Calls are not forwarded	Calls are not forwarded
CFD not provisioned	Calls are forwarded using CFB	Calls are not forwarded	Calls are not forwarded

Virtual Office Worker (VOW) (continued)

Activation/deactivation by the end user

VOW login

On a set with the VOWDN line option assigned, a VOW performs the following steps to log in:

1. Go off-hook.

Note: A VOWDN set which does not have a logged in VOW user will receive stutter dial tone when going off hook.

- Upon receipt of stutter dial tone, dial the VOWIN feature access code (for example, *80) for the appropriate customer group. This access code is datafilled in table IBNXLA.
2. Upon receipt of dial tone, dial the VOW authorization code (for example, 7654321) for the appropriate customer group and NCOS. The VOW authorization code and VOW authorization code length is datafilled in table AUTHCDE. If a mistake is made when entering the VOW authorization code, pressing the * key restarts collection of the VOW authorization code.

Note 1: This step is required only if the use of the VOW authorization code is enabled through the VOWDN tuple in table CUSTSTN for the corresponding customer group.

Note 2: Use of authorization codes can require an ACCT code depending on the datafill for AUTH in table CUSTHEAD. If required, the ACCT code must be appended to the AUTH code.

4. Upon receipt of dial tone, dial the personal (SW) authorization code (for example, 1234567) for the appropriate customer group and NCOS. The SW authorization code and SW authorization code length is specified in table AUTHCDE. If a mistake is made when entering the personal authorization code, pressing the * key restarts collection of the personal authorization code.

Note 1: This step is required only if the use of the personal (SW) authorization code is enabled through the VOWDN tuple in table CUSTSTN for the corresponding customer group.

Note 2: Use of authorization codes can require an ACCT code depending on the datafill for AUTH in table CUSTHEAD. If required, the ACCT code must be appended to the AUTH code.

5. Upon receipt of dial tone, dial the PDN for the VOW set data to whose passcode is being modified (for example, 2149975005). If a mistake is

Virtual Office Worker (VOW) (continued)

made when entering the PDN, pressing the '*' key will restart collection of the PDN.

Note: The PDN must be entered as a 10 digit number.

6. Upon receipt of dial tone, dial the passcode unique to that VOW (for example, 99750564496). The length of this passcode is specified in table CUSTSTN in the VOWDN tuple associated with the customer group. If a mistake is made when entering the passcode, pressing the * key restarts collection of the passcode.

At this point, logs are generated and OMs are pegged to indicate a successful login attempt. If an error occurred, either due to user input or otherwise during any of the preceding steps, OMs are pegged to indicate that an error occurred during a login attempt, and the set returns to an idle state.

If successfully logged in, the VOW can make and receive calls using the dedicated DN associated with the VOW set on which the login took place. Also, any features previously provisioned for the dedicated DN operates normally and retains any settings from the previous logout.

Once logged in, the VOW's dedicated DN and associated data is associated with a physical LEN. This is illustrated in the sample QLEN below.

Virtual Office Worker (VOW) (continued)

Sample QLEN, showing association of a VOW with a LEN after log in

```

>qlen 9975121
-----
LEN:  HOST 0 0 0 1
TYPE: SINGLE PARTY LINE
SNPA: 214
DIRECTORY NUMBER:  9975121
LINE CLASS CODE: M2016S
CUSTGRP:      BNRRCH SUBGRP: 0 NCOS: 0 RING: Y
CARDCODE: 8D02AB  GND: N PADGRP: NPDGP BNV: NL MNO: Y
PM NODE NUMBER   :  55
PM TERMINAL NUMBER :  33
OPTIONS:
CWI VOW
CFD F 5122 I 1 2 CWT Y Y N 1 2

KEY   DN
---   --
 1   DN      9975121

KEY   FEATURE
---   -----
 1   CFD F           5000      I 1 2
 4   CWT Y Y N 1 2
-----

```

In addition to the changes shown in the figure, some changes will be seen in tables VOWINV and DNROUTE once the VOW user is successfully logged in. In table VOWINV, the VOWDN tuple is removed. The VOW agent DN is now linked to the VOWDN set physical LEN in the VOW tuple. The same tuple also shows the LOGGEDIN bool as 'Y'. In table DNROUTE, a DN placeholder tuple has been created to store and reserve the VOWDN set DN until the VOW user logs out.

VOW logout

On a set with the VOW line option assigned, a VOW performs the following to log out:

1. Go off-hook.
2. Upon receipt of dial tone, dial the VOWOUT feature access code (for example, *81) for the appropriate customer group. The VOWOUT feature access code is datafilled in table IBNXLA.

At this point, logs are generated and OMs are pegged to indicate a successful logout attempt. If an error occurred either due to user input or otherwise during

Virtual Office Worker (VOW) (continued)

any of the preceding steps, OMs are pegged to indicate that an error occurred during a logout attempt, and the set returns to an idle state.

If successful, the VOW is now logged out. Calls can terminate on or be originated from the set on which the logout attempt took place. All data, including the dedicated DN and features, associated with the VOW who just logged out will be completely disassociated with the set.

At this point, the VOWDN set delivers stutter dial tone at off-hook, to denote that no VOW user is logged in at that set.

Once logged out, the VOWs dedicated DN and associated data will not be associated with any physical LEN. Instead, it will be associated with a VOW logical terminal as illustrated in the sample QLEN output on the next page. Similarly, when logged out, the pre-designated VOW set returns to the standard line with VOWDN option.

In addition to the changes shown in the figure, some changes will be seen in tables VOWINV and DNROUTE once the VOW user is successfully logged out. In table VOWINV, the VOWDN tuple is restored. The VOW agent DN is now associated with the VOW virtual LEN in the VOW tuple. The same tuple also shows the LOGGEDIN bool as 'N'. In table DNROUTE, the DN placeholder tuple previously created has now been removed.

Virtual Office Worker (VOW) (continued)

Sample QLEN, showing association of a VOW with a logical terminal after log out

```
>qlen 9975121
-----
LEN:  VOW 1 1
TYPE: SINGLE PARTY LINE
SNPA: 214
DIRECTORY NUMBER:  9975121
LINE CLASS CODE: M2016S
CUSTGRP:      BNRRCH SUBGRP: 0 NCOS: 0 RING: Y
CARDCODE: NOT APPLICABLE GND: N PADGRP: NPDGP BNV: NL MNO: N
OPTIONS:
CWI VOW
CFD F 5122 I 1 2 CWT Y Y N 1 2

KEY  DN
---  --
1   DN      9975121

KEY  FEATURE
---  -----
1   CFD F           5000      I 1 2
4   CWT Y Y N 1 2

-----
>qlen HOST 0 0 0 1
-----
LEN:  HOST 0 0 0 1
TYPE: SINGLE PARTY LINE
SNPA: 214
DIRECTORY NUMBER:  9975122
LINE CLASS CODE: M2016S
CUSTGRP:      BNRRCH SUBGRP: 0 NCOS: 0 RING: Y
CARDCODE: 8D02AB GND: N PADGRP: NPDGP BNV: NL MNO: Y
PM NODE NUMBER  : 55
PM TERMINAL NUMBER : 33
OPTIONS:
DTM VOWDN $

KEY  DN
---  --
1   DN      2149975900

KEY  FEATURE
---  -----
1 VOWDN
-----
```

Virtual Office Worker (VOW) (continued)

VOW pass code change

On a set with the VOW line option assigned, a VOW can change the VOW passcode used during login as follows:

1. Go off-hook.
2. Upon receipt of dial tone, dial the VOWPCC feature access code (for example, *82) for the appropriate customer group. The VOWPCC feature access code is datafilled in table IBNXLA.
3. Upon receipt of dial tone, dial the PDN for the VOW set data for which the passcode is being modified (for example, 2149975005). If a mistake is made when entering the current passcode, pressing the * key restarts collection of the current passcode.

Note: The PDN must be entered as a 10 digit number.

4. Upon receipt of dial tone, dial the current passcode unique to that VOW (for example, 9975056449). The length of this passcode is specified in table CUSTSTN in the VOWDN tuple associated with the customer group. If a mistake is made when entering the current passcode, pressing the * key restarts collection of the current passcode.
5. Upon receipt of dial tone, dial the new passcode for that VOW (for example, 9975056944). The length of this passcode is specified in table CUSTSTN in the VOWDN tuple associated with the customer group. If a mistake is made when entering the new passcode, pressing the * key restarts collection of the new passcode.
6. Upon receipt of dial tone, redial for confirmation the new passcode for that VOW (for example, 9975056944). The length of this passcode is specified in table CUSTSTN in the VOWDN tuple associated with the customer group. If a mistake is made when re-entering the new passcode, pressing the * key restarts collection for the re-entry of the new passcode.

If the first new passcode does not match the confirmation of the new passcode, then the VOW's passcode is not changed. Also, if another VOW in the same customer group should have the same passcode as the new passcode, then passcode is not changed.

Whether successful or not, OMs are pegged to record the result of the passcode change attempt.

Virtual Office Worker (VOW) (continued)

VOW remote logout

On a set within the same customer group on the same switch as the VOW's set data, a VOW can perform a remote logout as follows:

1. Go off-hook.
2. Upon receipt of dial tone, dial the VOWROUT feature access code (for example, *83) for the appropriate customer group. The VOWROUT feature access code is datafilled in table IBNXLA.
- Upon receipt of dial tone, dial the PDN for the VOW set data which is being remotely logged out (for example, 2149975005). If a mistake is made when entering the current passcode, pressing the * key restarts collection of the current passcode.

Note: The PDN must be entered as a 10 digit number.

3. Upon receipt of dial tone, dial the current passcode unique to that VOW (for example, 9975056449). The length of this passcode is specified in table CUSTSTN in the VOWDN tuple associated with the customer group. If a mistake is made when entering the current passcode, pressing the * key restarts collection of the current passcode.

If the VOW was logged in, this forces a logout from a remote station. At this point, logs are generated and OMs are pegged to indicate a successful remote logout attempt. If an error occurs either due to user input or otherwise during any of the preceding steps, OMs are pegged to indicate that an error occurred during a logout attempt, and the set returns to an idle state.

If the remote logout attempt is successful, the VOW set data is modified as described in the section describing VOW logout.

Billing

Virtual Office Worker does not affect billing.

Station Message Detail Recording

Virtual Office Worker does not affect Station Message Detail Recording.

Datafilling office parameters

Virtual Office Worker does not affect office parameters.

Virtual Office Worker (VOW) (continued)

Datafill sequence

The table that follows lists the data schema tables that require datafill to implement Virtual Office Worker. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Virtual Office Worker

Table	Purpose of table
DNROUTE	The directory number route table lists information for writable DNs in the switch rather than the line equipment numbers (LEN). Table DNROUTE associates a DN with a specific trunk group member.
CUSTSTN	The customer group station option table customizes the use of customer telephone sets.
IBNXLA	The integrated business network translation table defines the dialing plan for each customer group.
AUTHCDE	The authorization code table defines authorization codes and the NCOS account option and security digits.
VOWINV	The VOW inventory table is contains the physical or virtual LENS and additional data associated with a VOW's dedicated DN, the personal VOW ID code, and the primary VOW DN. The VOW personal ID field, VOWPID, is the only field that can be modified with the table editor.
Note: The datafill in tables DNROUTE and VOWINV is set automatically.	

Datafilling table DNROUTE

The datafill in table DNROUTE is set automatically. The table that follows shows the datafill specific to Virtual Office Worker for table DNROUTE. Only those fields that apply directly to Virtual Office Worker are shown. For a

Virtual Office Worker (VOW) (continued)

description of the other fields, refer to the table DNROUTE description in the Customer Data Schema Reference Manual.

Datafill in table DNROUTE

Field	Subfield or refinement	Entry	Explanation and action
FEATURE		VOWDN	This field identifies the DNROUTE feature type. When field FEATURE is datafilled as VOWDN, use field CUSTGRP to identify the customer group to which the VOW belongs.
VOWDNIDX		numeric, 0-4095	Unique index value for VOWDN tuple. If not unique, available value is provided.
CUSTGRP		alphanumeric	This field provides the customer group name associated with the VOW.

Datafill example for table DNROUTE

The figure that follows shows sample datafill for table DNROUTE.

MAP display example for table DNROUTE

AREACODE	OFCCODE	STNCODE	DNRESULT

919 657 7293	FEAT	VOWDN 23	BNRRTP

Datafilling table CUSTSTN

The table that follows shows the datafill specific to Virtual Office Worker for table CUSTSTN. Only those fields that apply directly to Virtual Office Worker

Virtual Office Worker (VOW) (continued)

are shown. For a description of the other fields, refer to the table CUSTSTN description in the Customer Data Schema Reference Manual.

Datafilling table CUSTSTN

Field	Subfield or refinement	Entry	Explanation and action
OPTNAME		VOWDN	This field provides the name of the customer group option. Enter VOWDN for VOW functionality.
OPTION			This field consists of subfield OPTION. OPTION.
	OPTION	VOWDN	This field identifies the customer group option. Enter VOWDN for VOW functionality.
NCOS		0 to 511	This field identifies the network class of service of the physical sets that are assigned the VOWDN line option in this customer group.
SUBGRP		0 to 7	This field specifies the sub-group associated with the physical sets that are assigned the VOWDN line option.
VOWAUTH		Y or N	This field specifies whether a VOW authorization code is required for VOW login.
SWAUTH		Y or N	This field specifies whether a personal authorization code is required for VOW login.
AUDIT		Y or N	This field specifies whether a VOW audit is performed on this customer group. If AUDIT is set to Y, then HOUR must also be specified.
HOUR		0 to 23	This field sets the hour at which the VOW audit is performed on this customer group. (0 denotes midnight, or 12 AM. 12 denotes noon, or 12 PM.)
CFW		Y or N	This field specifies whether call forwarding interaction with VOW logins and logouts is enabled.

Virtual Office Worker (VOW) (continued)

Datafilling table CUSTSTN

Field	Subfield or refinement	Entry	Explanation and action
PCCLLEN		4 to 10	This field specifies the length of the passcodes for VOWs in this customer group.
VOWLCC		alphanumeric	This field identifies the line class code of the sets making use of VOW functionality in this customer group.

The PCCLLEN value has a direct relationship on the VOWPID value specified with the VOW line option and the VOWPID field in table VOWINV. When initially set with the VOW line option, the VOWPID value must have a length matching the PCCLLEN value in the associated VOWDN tuple in table CUSTSTN. Once a VOW's passcode has been set, it can be changed by the user through the use of the VOWPCC feature access code in table IBNXL. It can also be changed by switch personnel in the VOWPID field in table VOWINV. When changed, the passcode must have a length matching the PCCLLEN value in the associated VOWDN tuple in table CUSTSTN.

If the value of the PCCLLEN field in table CUSTSTN changes, the associated VOWPID fields in table VOWINV are immediately impacted. If the PCCLLEN value is changed to a smaller value, then the VOWPID values for VOWs in the corresponding customer group are truncated to match the new PCCLLEN value. (For example, changing the PCCLLEN value from 6 to 4 changes a VOWPID value of 123456 to 1234.) If the PCCLLEN value is changed to a larger value, then the corresponding VOWPID values are right-padded with zeros to match the new PCCLLEN value. (For example, changing the PCCLLEN value from 6 to 8 changes a VOWPID value of 123456 to 12345600.)

Note: If the PCCLLEN value for a customer group is changed, all VOWs within the customer group must be notified of the resulting impact to their passcode values. If this notification does not occur, the VOWs within the customer group cannot log in.

Datafill example for table CUSTSTN

The figure that follows shows sample datafill for table CUSTSTN.

Virtual Office Worker (VOW) (continued)

MAP display example for table CUSTSTN

```

CUSTNAME  OPTNAME  OPTION
-----
BNRRCH    VOWDN     VOWDN 0 0 Y Y Y 0 Y 7 PSET
BNRRTP    VOWDN     VOWDN 0 40 Y N N N 4 M26

```

Datafilling table IBNXLA

The table that follows shows the datafill specific to Virtual Office Worker for table IBNXLA. Only those fields that apply directly to Virtual Office Worker are shown. For a description of the other fields, refer to the table IBNXLA description in the Customer Data Schema Reference Manual.

Datafilling table IBNXLA

Field	Subfield or refinement	Entry	Explanation and action
FEATURE		VOWIN	This field identifies the IBN translations feature type.
		VOWOUT	
		VOWPCC	Enter VOWIN to indicate the VOW login feature.
		VOWROUT	Enter VOWOUT to indicate the VOW logout feature.
			Enter VOWPCC to indicate the VOW passcode change feature.
			Enter VOWROUT to indicate the VOW remote logout feature.

Datafill example for table IBNXLA

The figure that follows shows sample datafill for table IBNXLA.

MAP display example for table IBNXLA

```

KEY  RESULT
-----
FRCH 30 FEAT N N VOWIN
FRCH 31 FEAT N N VOWOUT
FRCH 32 FEAT N N VOWPCC
FRCH 33 FEAT N N VOWROUT

```

Virtual Office Worker (VOW) (continued)

Datafilling table AUTHCDE

The table that follows shows the datafill specific to Virtual Office Worker for table AUTHCDE. Only those fields that apply directly to Virtual Office Worker are shown. For a description of the other fields, refer to the table AUTHCDE description in the Customer Data Schema Reference Manual.

Datafilling table AUTHCDE

Field	Subfield or refinement	Entry	Explanation and action
AUTHTYPE		VOW	This field identifies the authorization code type. Enter VOW to denote a VOW authorization code.

Datafill example for table AUTHCDE

The figure that follows shows sample datafill for table AUTHCDE.

MAP display example for table AUTHCDE

```

AUTHPART AUTHCODE INFO
-----
BNRRCH 7654321 IBN 0 N $ VOW $

```

Datafilling table VOWINV

Table VOWINV is automatically datafilled when VOWs log in and log out and when switch personnel manipulate VOW set data through the CKLN and CLN commands. It is also updated when VOWs are logged out through the VOW audit. Switch personnel can modify only the VOWPID value within this table. Tuples can not be added, deleted, or otherwise modified through the table editor.

Virtual VOW LENS are pre-assigned when the VOW line option is added to a set with SERVORD and a tuple is created in table VOWINV. Virtual VOW LENS are unassigned only when the VOW line option is removed from a set with SERVORD and the corresponding tuple is deleted from table VOWINV.

The table that follows shows the datafill specific to Virtual Office Worker for table VOWINV. Only those fields that can be modified are shown. For a

Virtual Office Worker (VOW) (continued)

description of the other fields, refer to the table VOWINV description in the Customer Data Schema Reference Manual.

Datafill in table VOWINV

Field	Subfield or refinement	Entry	Explanation and action
VOWPID		numeric (4 to 10 digits)	This field provides a VOW passcode value of 4 to 10 digits.

Datafill example for table VOWINV

The figure that follows shows sample datafill for table VOWINV.

MAP display example for table VOWINV

VOWKEY VOWDATA

```
-----
BNRRCH VOWDN LCM1 00 1 09 31 VOWDN 214 997 5700
BNRRCH VOW 2149975134 VOW 839943 VOW 2 66 N N IPE0 0 0 2 3 N
BNRRTP VOWDN IPE0 00 0 00 12 VOWDN 919 657 7700
BNRRTP VOW 9196577665 VOW 5576643 VOW 4 644 Y VOW 4 645 Y DLM0 0 0 4 12
Y DLM0 0 0 4 13
```

Translation verification tools

Virtual Office Worker does not use translation verification tools.

SERVORD

Two line options, VOW and VOWDN, provide VOW functionality. Both the VOW and VOWDN line options must be assigned to the PDN of a keyset or IBN set. The keyset must have a line format of DN in table KSETLINE. The IBN set must have a line format of STN in table IBNLINES.

The table that follows shows VOW line options that are valid on the set types.

VOW- and VOWDN-compatible line class codes

Set type	Line class code
MBS	PSET, M5009, M5112, M5209, M5312, M5212, M5008, M5208, M5216, M5316

Virtual Office Worker (VOW) (continued)

VOW- and VOWDN-compatible line class codes

Set type	Line class code
IVD	M2009, M2112, M2018, M2317, M2008, M2616, M2016S, M2216A, M2216B, M2006, M2616CT
IBN	IBN

SERVORD limitations and restrictions

The following SERVORD limitations and restrictions apply to Virtual Office Worker:

- The VOW line option is not compatible with multiple appearance directory numbers (MADN), automatic call distribution (ACD), or hunt groups. It is also incompatible with the network facility access (NFA) line option and the following options: ACB, AR, BLF, C2USER, CALLOG, CPU, DLH, DNH, DOR, DRING, MDN, MLH, MPH, SBLF, SDN, SIMRING, SLU, TRANSFER, VOWDN, and XFER.
- The VOWDN option is not compatible with any other line options/features except SETMODEL, DGT, DISP, M0200, and NAME.
- The value of the passcode associated with the VOW line option must have a length matching the PCCLLEN value in the associated VOWDN tuple in table CUSTSTN. Once a VOW's passcode has been set, it can be changed by the user through the use of the VOWPCC feature access code in table IBNXLA or by switch personnel by changing the VOWPID field in the appropriate tuple in table VOWINV. When changed, the passcode must still have a length matching the PCCLLEN value in the associated VOWDN tuple in table CUSTSTN.

If the value of the PCCLLEN field in the VOWDN tuple in table CUSTSTN changes, the associated VOWPID fields in table VOWINV is immediately impacted. If the PCCLLEN value is changed to a smaller value, then the VOWPID values for VOWs in the corresponding customer group is truncated to match the new PCCLLEN value. (For example, changing the PCCLLEN value from 6 to 4 changes a VOWPID value of 123456 to 1234.) If the PCCLLEN value is changed to a larger value, then the corresponding VOWPID values are right-padded with zeros up to the new PCCLLEN value. (For example, changing the PCCLLEN value from 6 to 8 changes a VOWPID value of 123456 to 12345600.)

Virtual Office Worker (VOW) (continued)

SERVORD prompts

The table that follows shows the SERVORD prompts used to assign an initial passcode to a line with the Virtual Office Worker feature. SERVORD examples for adding and changing Virtual Office Worker

SERVORD prompts for Virtual Office Worker

Prompt	Valid input	Explanation
VOWPID	4 to 10 digit number	When adding VOW to a set, an initial passcode must be specified for the associated VOW user. This value is a number between 4 and 10 digits in length. The passcode length is specified by the PCCLLEN field of the VOWDN tuple for the corresponding customer group in table CUSTSTN.

SERVORD examples for adding and changing VOW and VOWDN lines

The figure that follows is an example of how a VOW line is established for a virtual office worker having a keyset. This example uses the NEW command.

Virtual Office Worker (VOW) (continued)

Establishing a VOW line for a keyset

```
>new
SONUMBER:      NOW   98   9 29 PM
>
DN:
>9975059
LCC_ACC:
>pset
GROUP:
>bnrrch
SUBGRP:
>0
NCOS:
>0
SNPA:
>214
KEY:
>1
RINGING:
>Y
LTG:      0
>
LEN_OR_LTID:
>LCM2  00 0 06 31
OPTKEY:
>1
OPTION:
>VOW
VOWPID:
>12345
OPTKEY:
>$
COMMAND AS ENTERED:
NEW NOW 98 9 29 PM 9975059 PSET BNRRCH 0 0 214 1 Y 0
LCM2 00 0 06 31 ( 1 VOW ) $
ENTER Y TO CONFIRM,N TO REJECT OR E TO EDIT
>Y
MACHINES OUT OF SYNC OR NO JF, OVERRIDE IN EFFECT.
>
```

The figure that follows is an example of how a VOWDN line is established for a virtual office worker having a keyset. This example uses the NEW command.

Virtual Office Worker (VOW) (continued)

Establishing a VOWDN line for a keyset

```

>new
SONUMBER:      NOW   98   9 29 PM
>
DN:
>9975059
LCC_ACC:
>pset
GROUP:
>bnrrch
SUBGRP:
>0
NCOS:
>0
SNPA:
>214
KEY:
>1
RINGING:
>Y
LTG:      0
>
LEN_OR_LTID:
>LCM2  00 0 06 31
OPTKEY:
>1
OPTION:
>VOWDN
OPTKEY:
>$
COMMAND AS ENTERED:
NEW NOW 98 9 29 PM 9975059 PSET BNRRCH 0 0 214 1 Y 0
LCM2 00 0 06 31 ( 1 VOWDN ) $

ENTER Y TO CONFIRM,N TO REJECT OR E TO EDIT
>Y
MACHINES OUT OF SYNC OR NO JF, OVERRIDE IN EFFECT

```

The figure that follows is an example of how a VOW line is established for a virtual office worker having a non-keyset. This example uses the NEW command.

Virtual Office Worker (VOW) (continued)

Establishing a VOW line for a non-keyset

```
>new
SONUMBER:      NOW  98  9 29 PM
>
DN:
>9975007
LCC_ACC:
>ibn
GROUP:
>bnrrch
SUBGRP:
>0
NCOS:
>0
SNPA:
>214
LTG:      0
>
LEN_OR_LTID:
>LCM1 00 1 18 00
OPTION:
>VOW
VOWPID:
>12345
OPTION:
>$
COMMAND AS ENTERED:
NEW NOW 98 9 29 PM 9975007 IBN BNRRCH 0 0 214 0
LCM1 00 1 18 00 ( VOW ) $

ENTER Y TO CONFIRM,N TO REJECT OR E TO EDIT
>y
MACHINES OUT OF SYNC OR NO JF, OVERRIDE IN EFFECT.
>
```

The figure that follows is an example of how a VOWDN line is established for a virtual office worker having a non-keyset. This example uses the NEW command.

Virtual Office Worker (VOW) (continued)

Establishing a VOWDN line for a non-keyset

```
>new
SONUMBER:      NOW   98   9 29 PM
>
DN:
>9975007
LCC_ACC:
>ibn
GROUP:
>bnrrch
SUBGRP:
>0
NCOS:
>0
SNPA:
>214
LTG:      0
>
LEN_OR_LTID:
>LCM1 00 1 18 00
OPTION:
>VOWDN
OPTION:
>$
COMMAND AS ENTERED:
NEW NOW 98 9 29 PM 9975007 IBN BNRRCH 0 0 214 0
LCM1 00 1 18 00 ( VOWDN ) $

ENTER Y TO CONFIRM,N TO REJECT OR E TO EDIT
>Y
MACHINES OUT OF SYNC OR NO JF, OVERRIDE IN EFFECT.
>
```

The figure that follows is an example of how a VOW line option is added for a virtual office worker having a keyset. This example uses the ADO command.

Virtual Office Worker (VOW) (continued)

Adding a VOW line option for a keyset

```
>ado
SONUMBER:      NOW   98   9  24 AM
>
DN_OR_LEN:
>9975057
OPTKEY:
>1
OPTION:
>VOW
VOWPID:
>12345
OPTKEY:
>$
COMMAND AS ENTERED:
ADO NOW 98 9 24 AM 9975057 ( 1 VOW )$
ENTER Y TO CONFIRM,N TO REJECT OR E TO EDIT
>Y
MACHINES OUT OF SYNC OR NO JF, OVERRIDE IN EFFECT.
>
```

The figure that follows is an example of how a VOWDN line option is added for a virtual office worker having a non-keyset. This example uses the ADO command.

Virtual Office Worker (VOW) (continued)

Adding a VOWDN line option for a non-keyset

```

>ado
SONUMBER:      NOW   98   9 24 AM
>
DN_OR_LEN:
>9975003
OPTION:
>VOW
VOWPID:
>12345
OPTION:
>$
COMMAND AS ENTERED:
ADO NOW 98 9 24 AM 9975003 ( VOW )$
ENTER Y TO CONFIRM,N TO REJECT OR E TO EDIT
>Y
MACHINES OUT OF SYNC OR NO JF, OVERRIDE IN EFFECT.
>

```

The figure that follows is an example of how a VOW line option is deleted for a virtual office worker having a keyset. This example uses the DEO command.

Deleting a VOW line option for a keyset

```

>deo
SONUMBER:      NOW   98   9 29 PM
>
DN_OR_LEN:
>LCM2  00 0 06 31
OPTKEY:
>1
OPTION:
>vow
OPTKEY:
>$
COMMAND AS ENTERED:
DEO NOW 98 9 29 PM LCM2 00 0 06 31 ( 1 VOW ) $
ENTER Y TO CONFIRM,N TO REJECT OR E TO EDIT
>Y
MACHINES OUT OF SYNC OR NO JF, OVERRIDE IN EFFECT.
>

```

Virtual Office Worker (VOW) (end)

The figure that follows is an example of how a VOWDN line option is deleted for a virtual office worker having a non-keyset. This example uses the DEO command.

Deleting a VOWDN line option for a non-keyset

```
>deo
SONUMBER:      NOW   98   9 29 PM
>
DN_OR_LEN:
>LCM2  00 0 06 31
OPTION:
>vowdn
OPTKEY:
>$
COMMAND AS ENTERED:
DEO NOW 98 9 29 PM LCM2 00 0 06 31 ( VOWDN ) $
ENTER Y TO CONFIRM,N TO REJECT OR E TO EDIT
>y
MACHINES OUT OF SYNC OR NO JF, OVERRIDE IN EFFECT.
>
```

History

SN07 (DMS)

Virtual Office Worker (VOW) feature introduced by A00002011.

2 Datafilling MDC CLASS on MDC

The following chapter describes the MDC CLASS on MDC, MDC00004, functionality.

Calling Name Delivery on MADN (CNAMD on MADN)

Ordering codes

Functional group ordering code: MDC00004

Functionality ordering code: does not apply

Release applicability

NA008 and later versions

Requirements

To operate, Calling Name Delivery on MADN (CNAMD on MADN) has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC Standard, MDC00003
- RES Service Enablers, RES00006

Network configuration

Common Channel Signaling No. 7 (CCS7) connectivity is a requirement for network (interoffice) configuration of Custom Local Area Signaling Services (CLASS) on MBS Phase I and II. The following feature packages are requirements for CCS7 connectivity:

- Base ISUP, ISP70001
- TEL CCS7 Base, TEL00008

Description

Calling Name Delivery on Multiple Appearance Directory Number (CNAMD on MADN) makes the CNAMD feature available to MADN group members on 500/2500 sets.

Note: The 500/2500 sets require an adjunct set with display abilities to receive the calling party display information.

CLASS display capabilities

The CNAMD on MADN provides full CLASS display ability for MADN groups with single call arrangement and extension bridging.

The CNAMD on MADN is for calls in the same switch, intraoffice, or between switches, interoffice. Transmission of the name information between originating and terminating nodes of the public network requires the CCS7 protocol.

Calling Name Delivery on MADN (CNAMD on MADN) (continued)

All MADN calls first contain one MADN group member and one external party. The name *external party* distinguishes the party that is not part of the MADN group.

Single call arrangement allows only one call to be active, originating or terminating, on the MADN group at any given time. Only the number of members in the MADN group limits the number of members in the call. Extension bridging is a type of MADN arrangement like single call arrangement. This arrangement allows the members of the MADN group to emulate extensions of the same line.

The current NAME line option provides the method to assign a name to the directory number (DN) of the originating party. Use of the multiple data message format occurs for delivery of the name information to the CNAMD subscriber set. Bellcore TR-TSY-000030 defines this message format.

The CLASS display features operate in the following method:

- a normal termination occurs on a line assigned a CLASS display feature.
- the central control (CC) sends a message to the peripheral module (PM) that contains the CLASS display information for that call. The PM must support the CLASS Modem Resource (CMR) card.
- after the first ring, the PM delivers information to the subscriber set through the CMR card. This information contains the calling information and the current time and date.

The CLASS display feature subscriber can go off-hook before the transmission of the data. If this event occurs, the CC does not transmit the CLASS display information. In the event the CLASS display subscriber goes off-hook during the transmission of the data, the system aborts the transmission.

Operation

Assignment of the CNAMD on MADN to MADN group members occurs through the CNAMD line option. When a CNAMD assignment occurs, delivery of information to the set of the MADN group member occurs. This information contains the name of the calling party and the current time and date. Delivery of calling name information to the MADN group occurs between the first and second rings of each incoming call. For this delivery of information to the MADN group member to occur, the following two conditions apply. The member must have physical ringing applied. Enough

Calling Name Delivery on MADN (CNAMD on MADN) (continued)

time must follow the first ring of the set, before answering or abandoning the call, to deliver the calling information.

Note: The MADN group members that have Meridian business sets (MBS) cannot have the CLASS display features assigned. The MADN group members with multiple call arrangement cannot have the CLASS display features assigned.

Translations table flow

Refer to “Translations data flow” in “Calling Name Delivery (CNAMD)” for translations data flow information for CNAMD.

Limits

The following limits apply to Calling Name Delivery on MADN (CNAMD on MADN):

- The MADN group members with MBSs cannot have CNAMD on MADN assigned.
- The MADN groups with multiple call arrangement cannot have CNAMD on MADN assigned.

Interactions

A description of the actions between Calling Name Delivery on MADN (CNAMD on MADN) and other functionalities appears in the following paragraphs.

Bridging

Bridging allows idle MADN group members with single call arrangement to conference into an active MADN call. The call must first be in a talking state with stability. An idle MADN group member can bridge into a call. In this condition, the system does not update the outgoing call memory (OCM) of the member. The system does not update the incoming call memory (ICM) of the MADN group.

When an idle MADN group member with a CLASS display feature bridges into a call, delivery of calling information does not occur.

MADN hold

Any MADN group member with single call arrangement can enter a call that another MADN group member holds. When an MADN group member enters a call held by MADN hold, the system does not update the member OCM. Delivery of the calling party information does not occur.

Calling Name Delivery on MADN (CNAMD on MADN) (continued)

MADN ringing

An MADN group member can be designated to ring or not ring for calls terminating on the MADN group. The MADN single call arrangement groups can have the MADN Ring Forward (MRF) feature assigned. This feature provides one of the following four ring options:

- always ring
- never ring—Assignment of this option cannot occur if the MADN group member is a primary member and resides on a 500/2500 set. Delivery of calling information to terminals with CLASS display features occurs between the first and second rings for that member. If an MADN group member has the never ring option, delivery of calling information to that member does not occur.
- abbreviated ring—Ringing of the MADN group member continues until a person or the system activates MRF. Reception of display information does not occur when the ringing has the following setup. In this setup, an abbreviated ring MADN group member with the abbreviated ring option does not have enough time. This member does not have enough time to receive the calling information after the first ring. The recommended time for abbreviated ringing is 12 s when use of display features also occurs.
- delayed ring—Ringing of the MADN group member only occurs when the MRF feature is in effect for the call now terminating on the group. Members with delayed ringing only receive calling information between the first and second rings. For this condition to occur, enough time must be available to deliver the information before answering or abandoning the call. Members with the delayed ring option normally ring later than members with the always ring or abbreviated ring option. Members with the delayed ring option receive delivery of calling information later.

Note: Delivery of CLASS display information only occurs to MADN group members that receive ringing.

Activation/deactivation by the end user

Refer to “Activation/deactivation by the end user” in “Calling Name Delivery (CNAMD)” for the activation and deactivation procedures for CNAMD.

Billing

Refer to “Billing” in “Calling Name Delivery (CNAMD)” for billing and subscription usage sensitive pricing (SUSP) information that applies to CNAMD.

Calling Name Delivery on MADN (CNAMD on MADN) (continued)

Station Message Detail Recording

Calling Name Delivery on MADN (CNAMD on MADN) does not affect Station Message Detail Recording.

Datafilling office parameters

Refer to "Datafilling office parameters" in "Calling Name Delivery (CNAMD)" for information on office parameters for CNAMD.

Datafill sequence

Refer to "Datafill sequence" in "Calling Name Delivery (CNAMD)" for specified datafill sequence information and sample datafill for CNAMD.

Tools for verifying translations

Refer to "Verification tools" in "Calling Name Delivery (CNAMD)" for examples of output from the translations verification (TRAVER) command when you use the command to verify translations.

SERVORD

You can use current service order commands to add or delete the CNAMD on MADN feature from a MADN group member. These commands include NEW, ADO, and DEO. When you add the CNAMD on MADN feature to MADN group members, you must specify the DN and the line equipment number (LEN) to identify the member. If you do not specify the DN and LEN, the following condition occurs. The service order sequence is identical to another sequence. This other sequence is for the addition of CNAMD to a line with 500/2500 set service that is not MADN.

SERVORD limits

The following SERVORD limits apply to Calling Name Delivery on MADN (CNAMD on MADN):

- You cannot add CNAMD to a MADN group member on an MBS.
- The CNAMD on MADN does not provide display capabilities for MADN groups with multiple call arrangement.

Calling Name Delivery on MADN (CNAMD on MADN) (continued)

SERVORD prompts

The SERVORD prompts used to assign CNAMD with BILLING_OPTION to a MADN group member appear in the following table.

SERVORD prompts for assigning CNAMD with BILLING_OPTION to a MADN group member

Prompt	Valid input	Explanation
OPTION	CNAMD	Assigns option CNAMD to the line
BILLING_OPTION	AMA, NOAMA	Indicates the billing option for the line. Enter AMA if an AMA record is a requirement. Enter NOAMA if an AMA record is not a requirement.

SERVORD example for implementing Calling Name Delivery on MADN (CNAMD on MADN)

You can use the BILLING_OPTION prompt to add Calling Name Delivery on MADN (CNAMD on MADN) to an MADN group member. This process appears in the following SERVORD example.

Note: For the example, the SUSP entry in table AMAOPTS is ON. This setting causes the BILLING_OPTION prompt to appear.

SERVORD example for setting up Calling Name Delivery on MADN (CNAMD on MADN) using ADO in prompt mode

```
> SERVORD
SO:
>ADO
SONUMBER: NOW 76 5 15 AM
>
DN_OR_LEN:
> 6221421
LEN:
> HOST 00 0 19 05
OPTION:
> CNAMD
BILLING_OPTION: NOAMA
> AMA
OPTION:
> $
COMMAND AS ENTERED:ADO NOW 76 5 15 AM 6221421 HOST 00 0
19 05 ( CNAMD AMA ) $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
> Y
```

Calling Name Delivery on MADN (CNAMD on MADN) (end)

SERVORD example for setting up Calling Name Delivery on MADN (CNAMD on MADN) using ADO in no-prompt mode

```
>ADO $ 6221421 HOST 00 0 19 05 CNAMD AMA $ Y
```

CLASS on MBS/MADN Base

Ordering codes

Functional group ordering code: MDC00004

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.

Network configuration

Common Channel Signaling No. 7 (CCS7) connectivity is required for network (interoffice) configuration of CLASS on MBS Phase I and II. The following feature packages are required for CCS7 connectivity:

- Base ISUP, ISP70001
- TEL CCS7 Base, TEL00008

CLASS feature packages

The following feature packages are required to assign the individual CLASS features:

- RES Non-Display Services, RES00005
- RES Display Functionality and Privacy, RES00003

Description

The CLASS on MBS/MADN Base feature makes the following Custom Local Area Signaling Services (CLASS) features available to subscribers on Meridian business sets (MBS) and to subscribers in a Multiple Appearance Directory Number (MADN) group with either 500/2500 sets or MBSs:

- Automatic Call Back (ACB)
- Automatic Recall (AR)
- Customer Originated Trace (COT)

CLASS on MBS/MADN Base (continued)

CLASS on MBS/MADN Base also makes the following CLASS features available to MADN subscribers with 500/2500 sets:

- Calling Number Delivery (CND)
- Dialable Number Delivery (DDN)

The 500/2500 sets require an adjunct set with display capabilities to receive CLASS calling party display information. For information on the hardware requirements for Subscriber Services CLASS features in this document.

Note 1: Calling Number Delivery Blocking (CNDB) is available in the MDC environment with feature AG1550, Calling Name/Number Delivery Blocking (CNNB). Refer to "Calling Name/Number Delivery Blocking (CNNB)."

Note 2: MBSs have display capabilities; therefore, they are not supported by CLASS display capabilities. CND and DDN are available to MADN group members with 500/2500 sets.

Note 3: The display features CND and DDN are incompatible and cannot be assigned to the same line. The Long Distance Indicator (LDI) feature operates in conjunction with the CLASS display features, but cannot be assigned independently to a line.

CLASS feature descriptions

This section describes how the CLASS features made available by CLASS on MBS/MADN Base operate in the MBS and MADN environment (LCC of PSET). For information on how CLASS features operate in the Subscriber Services RES environment (LCC of RES), refer to the individual CLASS feature descriptions.

Meridian business sets

Each directory number (DN) having an appearance on an MBS can be assigned the AR, ACB, or COT feature. Only the DN appearances that are assigned one of these features can activate that particular feature. The calling party information used in feature operation is stored in the incoming call memory (ICM) for AR and COT, and in the outgoing call memory (OCM) for ACB. AR and COT operate on the information from the last incoming call to the DN, which may or may not be the last incoming call to the MBS. Similarly, ACB operates on the information from the last outgoing call from the DN.

The enhancement to COT allows the Meridian business set (MBS) subscriber to activate COT by feature key access. The subscriber can activate COT by key access when the call is in the talking state. This enhancement also allows the automatic call distribution (ACD) agent to activate COT with the feature key.

CLASS on MBS/MADN Base (continued)

The agent activates COT for the last call terminated on the set. The ACD agent can be in the talking state on this last call.

The COT option is a subset feature. The subset feature indicates it is associated with DNs on the set. If the feature COT is on the primary DN (PDN), then the subscriber activates COT with the access code only. The assignment of COT is limited to one key for each set when the feature is on the PDN. If assignment of COT is on the PDN, then assignment of COT to a feature key is not allowed. Also, if COT is assigned on a feature key, then assignment of COT to the PDN is not allowed.

Note: For BCS34, ACB and AR can only be assigned to DN appearances on the MBS and not to feature keys on the set.

Automatic Call Back and Automatic Recall

From each DN on an MBS assigned the ACB or AR feature, a subscriber can activate and deactivate the feature by means of a feature access code only. The code is the same as that used for ACB/AR activation and deactivation on 500/2500 sets, and it is datafilled in table IBNXL A.

When the ACB/AR subscriber encounters a busy line on feature activation, he or she is recalled when the called station becomes idle. On ACB/AR activation on the MBS, the lamp associated with the DN that originated the request flashes, and the set is alerted with distinctive ringing. If the DN does not have ringing capability, only the lamp associated with the DN flashes.

On MBSs with display capability, the calling party information for the ACB/AR request is displayed. If the office has reason display capability and has option REASDSP datafilled for the customer group in table CUSTSTN, a reason is displayed on ACB/AR recall along with the calling information.

Customer-originated Trace

The DNs on an MBS assigned the COT feature can activate the feature by means of a feature access code. The code is the same as that used for COT activation on 500/2500 sets, and it is datafilled in table IBNXL A.

The enhancement of COT with feature AF7543 allows activation by key access for the MBS. The feature key enhancement allows the query on active calls in the stable or talking state.

The CALLED party activates the COT feature during an active call. The CALLING party is on hold. The CALLED party hears the tone or announcement. The activation level for the tone or announcement is in table RESOFC (Residential Line CLASS Office Data) or table CUSTSTN (Customer Group Station Option). An attempt to restore the connection

CLASS on MBS/MADN Base (continued)

between the CALLED party and CALLING party follows the tone or announcement.

The CALLING party also activates the COT feature. The CALLED party is on hold. An attempt to restore the connection between the CALLED party and the CALLING party follows the tone or announcement. Both parties are present to restore the call after the tone or announcement.

The assignment of the COT option to a key on the MBS is through SERVORD. The COT feature is a subset feature. The SERVORD prompt keylist, associates COT with the individual DNs on the MBS. The subscriber activates COT by selection of the feature key. The subscriber activates COT with an access code if assignment is made to key 1, the PDN. The assignment of COT is made to one key for each MBS.

Note: The ICM is updated with information from each incoming call to the DN, including Call Waiting (CWT) calls. Even though the MBS has a separate call waiting key, the ICM of the DN that has the call waiting on it is updated. Therefore, if the DN has a high rate of incoming calls or it has the CWT feature, the ICM may be updated with the information on the most recent incoming or call waiting call before the COT subscriber has an opportunity to activate COT for a malicious call.

MADN groups

In addition to ACB, AR, and COT, the CLASS display features CND and DDN are available for MADN groups.

Note: CLASS features cannot be assigned to MADN groups with multiple call arrangement.

Automatic Recall and Customer Originated Trace

Calls to a MADN group can be answered by any member of the group, regardless of the manner in which the member is alerted; therefore, only one instance of the ICM is required for the entire MADN group. AR and COT are assigned to the primary member, but other members can access the features.

Note: To assign the AR or COT feature to a MADN group, the group must have a primary member. When assigning a member to a MADN group, the member can be specified as being the primary member. A MADN group can have only one primary member.

When a MADN group member activates the AR feature such that delayed processing is required, any subsequent attempts by other members of the MADN group to activate AR against the same DN result in a rejection of the request until the first member's request is completed.

CLASS on MBS/MADN Base (continued)

Only the MADN group member who originated the AR request is alerted, not the entire MADN group. Display is provided to the alerted MADN group member if the member is a DN on an MBS with display capabilities.

Note: In all MADN configurations, the ICM is updated with information from each incoming call, including Call Waiting (CWT) calls. Therefore, if the MADN group has a high rate of incoming calls or it has the CWT feature, the ICM may be updated with the information on the most recent incoming or call waiting call before the COT subscriber has an opportunity to activate COT for a malicious call.

Automatic Call Back

The members of a MADN group make outgoing calls on an individual member basis; therefore, ACB must be assigned on an individual MADN group member basis in order for each member to have access to the feature.

Calling Number Delivery and Dialable Number Delivery

The CLASS display features CND and DDN must be assigned on an individual MADN group member basis, and only to MADN group members with 500/2500 sets.

CLASS display features deliver calling party information between the first and second physical ring of a line with a display feature assigned. The information is only delivered to the MADN group member if the member has physical ringing applied and there is sufficient time following the set's first ring (prior to answer or abandon) to deliver the calling information.

Note: Display capability for MADN group members on an MBS is not altered by the CLASS on MBS/MADN Base feature.

Translations table flow

Refer to the individual CLASS feature descriptions for translations data flow information specific to each feature.

Limitations and restrictions

The following limitations and restrictions apply to CLASS on MBS/MADN Base:

- For BCS 34, CLASS features assigned to MBSs can only be activated by feature access codes. They cannot be assigned to feature keys or GIC keys.
- CLASS features cannot be assigned to MADN groups with multiple call arrangement (MCA).
- Assign the COT option to one key on each business set.

CLASS on MBS/MADN Base (continued)

- Assignment of COT to the PDN excludes the assignment of COT to a feature key.
- The COT feature is incompatible with MADN CACH.
- The COT key access feature is incompatible with an NI-2 set.
- The number of MADN group members that can reside on a particular XMS-based peripheral module (XPM) is limited to 16.

Note: To avoid overloading the CLASS Modem Resource (CMR) card, the number of MADN group members that can have CLASS display features is limited to eight for every XPM.

- If the MADN group has a high rate of incoming calls or it has the CWT feature, the ICM may be updated with the information on the most recent incoming or call waiting call before the COT subscriber has an opportunity to activate COT for a malicious call.
- When a MADN group member activates the AR feature such that delayed processing is required, any subsequent attempts by other members of the MADN group to activate AR against the same DN result in a rejection of the request until the first member's request is completed.
- The COT feature can be assigned to the primary member of a single call arrangement MADN group only. Secondary members can activate COT after the feature is assigned to the primary member. The feature key assignment of COT for the SCA primary MADN member allows the primary member to activate by key access. The primary member can activate COT during the talking or idle state. The secondary members activate COT by access code and only during the idle state.
- The activation of COT by access code is not permitted during the talking state.
- Excludes activation of COT by flash hook and dialing the feature access code during the talking state.
- Excludes activation of COT while the attendant console is active on a call.
- Excludes activation of other features during the COT tone or announcement.
- Excludes activation of COT while in the second leg of conference call, while in a conference call, or three-way call (3WC).
- The COT activation excludes the tone or announcement when the ACD agent goes off-hook as an idle set.

CLASS on MBS/MADN Base (continued)

- The idle set COT activation generates the COT log, but not the COT tone or announcement.
- A line class code (LCC) of zero minus deny (ZMD) or zero minus zero plus allowed (ZMZPA) can have the feature COT. The field RES_AS_POTS is set to "Y" for the office parameter RES_SO_SIMPLIFICATION and feature NC0485 is present.

Interactions

The following paragraphs describe the interactions between CLASS on MBS/MADN Base and other functionalities.

Bridging

Bridging allows idle MADN group members with single call arrangement to conference into an active MADN call, provided that the call is in a stable talking state. When an idle MADN group member bridges into a call, the member's OCM and the MADN group's ICM are not updated.

When an idle MADN group member with a CLASS display feature bridges into a call, no calling information is delivered.

Customer-originated Trace

The following interactions apply to the COT feature.

- The primary member of a single call arrangement (SCA) MADN is assigned the COT option through SERVORD. The COT option is automatically assigned to all secondary SCA MADN members following the addition of COT to the prime member.
- The multiple call arrangement (MCA) MADN is incompatible with COT.
- The MADN CACH feature is incompatible with the COT feature.
- The ICM captures the call waiting call when the COT feature is activated while the subscriber is active on the call. The COT requesting party listens to tone or announcement and the other party is on hold for this case.
- The ICM captures a call waiting (CWT) call if the COT feature is activated while the subscriber is in the talking state. The other party is put on hold for the time the requesting party hears the tone or announcement.
- The COT requesting party receives the tone or announcement following the update of the ICM and log. The requesting party receives only the tone or announcement if the COT key is pressed the second time. No log is generated for the second selection of the COT key.
- The selection of the COT key is ignored if the requesting party is on a conference or 3WC. The selection of the COT is also ignored if the

CLASS on MBS/MADN Base (continued)

attendant console is active on the call. The requesting party is allowed to activate other features following the COT tone or announcement only.

MADN hold

Any MADN group member with single call arrangement can enter a call being held by another MADN group member. When a MADN group member enters a call held by MADN hold, the member's OCM is not updated, and calling party information is not delivered.

MADN ringing

A MADN group member can be designated either to ring or not ring for calls terminating on the MADN group. MADN single call arrangement groups can also be assigned the MADN Ring Forward (MRF) feature which provides one of four different ring options. The four ring options are as follows:

- always ring
- never ring—This option cannot be assigned if the MADN group member is a primary member and resides on a 500/2500 set. Delivery of calling information to terminals with CLASS display features occurs between the first and second rings for that particular member. Thus, if a MADN group member has the never ring option, calling information is never delivered to that member.
- abbreviated ring—The MADN group member is rung until MRF is activated either manually or automatically. When the ringing is set up such that a MADN group member with the abbreviated ring option has insufficient time to receive the calling information after the first ring, no display information is received. A recommended time for abbreviated ringing when display features are also utilized is 12 s.
- delayed ring—The MADN group member is only rung when the MRF feature comes into effect for the call currently terminating on the group. Members with delayed ringing only receive calling information between the first and second rings, provided there is sufficient time to deliver the information prior to answering or abandoning the call. Members with the delayed ring option are likely to ring later than members with always ring or abbreviated ring option, and therefore receive delivery of calling information later.

Regardless of the ring option for the MADN group member on 500/2500 sets, the AR and ACB recall occurs using the standard recall to the MADN group member who originated the AR or ACB request. For the MBS, no ringing is applied for AR and ACB recall if the MADN group member has the never ring option.

CLASS on MBS/MADN Base (continued)

MADN extension bridging

Each MADN extension bridging member has its own OCM; thus, information on the last outgoing call made from one group member is not available in another group member's OCM.

Activation/deactivation by the end user

Refer to the individual CLASS feature descriptions for billing and subscription usage sensitive pricing (SUSP) information that applies to each feature.

Billing

Refer to the individual CLASS feature descriptions for billing and subscription usage sensitive pricing (SUSP) information that applies to each feature.

Station Message Detail Recording

CLASS on MBS/MADN Base does not affect Station Message Detail Recording.

Datafilling office parameters

CLASS on MBS/MADN Base does not affect office parameters. Refer to the individual CLASS feature descriptions for information on datafilling office parameters specific to each feature.

Datafill sequence

The following table lists the tables that require datafill to implement CLASS on MBS/MADN Base. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for CLASS on MBS/MADN Base

Table	Purpose of table
KSETFEAT (Note)	Business Set and Data-Unit Feature. This table lists the line features that are assigned to the business sets and data units (DU) listed in table KSETLINE, and also the Meridian digital telephone sets and DUs listed in table IVDINV.
KSETLINE (Note)	Business Set And Data-Unit Line Assignment. This table contains the directory number appearances for business sets and data units.
REASONS	Business Set Reason Display. This table contains information on various feature and call progress messages that can display on MBSs.
Note: This table is datafilled through SERVORD; therefore, no datafill procedure or example is provided. Refer to "SERVORD" for an example of using SERVORD to datafill this table.	

CLASS on MBS/MADN Base (continued)**Datafilling table REASONS**

Table REASONS (Business Set Reason Display) contains information on various feature and call progress messages that can display on MBSs. For the ACB and AR recall, the value ACBARRMSG is valid in field REASONID.

The following table shows the datafill specific to CLASS on MBS/MADN Base for table REASONS. Only those fields that apply directly to CLASS on MBS/MADN Base are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table REASONS

Field	Subfield or refinement	Entry	Explanation and action
REASNSET		1 to 16 alphanumeric	Reason set. This field specifies the name of the reason set. Enter 1 to 16 alphanumeric characters. The default reason set is DEFAULTSET.
REASONID		ACBARRMSG	Reason identification. This field specifies the name of the reason. Enter ACBARRMSG.
MESSAGE		1 to 15 alphanumeric	Displayed message. This field specifies the message that is displayed for the assigned option. Enter 1 to 15 alphanumeric characters. Use an underscore (_) between words to indicate a blank space in the display. The default value is: "IS_AVAILABLE"

Datafill example for table REASONS

The following example shows sample datafill for table REASONS.

MAP display example for table REASONS

TABLE: REASONS		
REASNSET	REASONID	MESSAGE
DEFAULTSET	ACBARRMSG	IS_AVAILABLE

CLASS on MBS/MADN Base (continued)

Translation verification tools

CLASS on MBS/MADN Base does not affect verification tools. Refer to the individual CLASS feature descriptions for examples of the output from the translations verification (TRAVER) command when it is used to verify translations.

SERVORD

SERVORD provides the means for adding the AR, ACB, and COT features to DN's residing on an MBS. SERVORD also allows the addition of the AR and COT features to the primary MADN group members and restricts these features from being assigned to the secondary MADN group members. All MADN group members can be assigned the ACB feature through SERVORD.

MADN group members with 500/2500 sets can be assigned the CLASS display features CND or DDN through SERVORD.

The SERVORD procedures to add the CLASS features on the MBS require that ACB, AR, and COT can be added to DN key 1 of the MBS. Also, a key list of the keys on the set to which the feature is assigned must be specified. For BCS34, the ACB, AR, and COT features can only be activated by access codes, and cannot be assigned to feature keys or to GIC keys.

The enhancement of the COT option allows key assignment on the MBS through SERVORD. The COT feature is a subset feature. The SERVORD prompt keylist associates COT with the individual DN's on the MBS. The subscriber activates COT with an access code if assignment is made to key 1, the PDN. The assignment of COT is made to one key for each MBS.

SERVORD limitations and restrictions

Only the primary MADN group member can be assigned the AR and COT features.

The following SERVORD limitations and restrictions apply to CLASS on MBS/MADN Base for the COT feature:

- Assignment of option COT is on one key for each business set.
- If option COT is on the primary directory number (PDN), SERVORD excludes assignment of COT to a feature key.
- If option COT is on a feature key, SERVORD excludes the assignment of COT by the ADO (add option) command.

CLASS on MBS/MADN Base (continued)

SERVORD prompts

When one of the CLASS features is added to an MBS set, an additional prompt of OPTKEY is added. Field OPTKEY is not prompted for when the LEN is a 500/2500 set.

The following table shows the SERVORD prompt OPTKEY used to assign CLASS on MBS/MADN Base to a DN on an MBS set.

SERVORD prompts for CLASS on MBS/MADN Base

Prompt	Valid input	Explanation
OPTION	ACB, AR, COT; CND, DDN (500/2500 sets only)	Specifies the option to be assigned
OPTKEY	1 to 69, \$	Specifies the DN or MADN key

SERVORD example for implementing CLASS on MBS/MADN Base

The following example shows how the ACB, AR, and COT features are added to an MBS DN on key 1 using the ADO command.

Note: In the following example, the SUSP (subscription usage sensitive pricing) entry in table AMAOPTS is set to OFF; therefore, the CLASS feature's BILLING_OPTION prompt is not displayed.

CLASS on MBS/MADN Base (continued)**SERVORD example for CLASS on MBS/MADN Base in prompt mode**

```

> SERVORD
SO:
> ADO
SONUMBER: NOW 89 6 12 PM
>
DN_OR_LEN:
> 7227000
OPTKEY:
> 1
OPTION:
> AR
KEYLIST:
> 1
KEYLIST:
> $
OPTKEY:
> 1
OPTION:
> ACB
KEYLIST:
> 1
KEYLIST:
> $
OPTKEY:
> 1
OPTION:
> COT
KEYLIST:
> 1
KEYLIST:
> $
OPTKEY:
> $
COMMAND AS ENTERED:
ADO NOW 89 6 12 PM 7227000 (1 AR (1) $) ( 1 ACB (1) $)
( 1 COT (1) $ ) $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
> Y

```

SERVORD example for CLASS on MBS/MADN Base in no-prompt mode

```

> ADO $ 7227000 1 AR 1 $ 1 ACB $ 1 COT 1 $ $ Y

```

CLASS on MBS/MADN Base (continued)

Adding AR and COT to the primary MADN group member is identical to adding these features to a non-MADN line with a 500/2500 set, except that both the DN and the LEN must be specified to uniquely identify the MADN group member.

The following example shows how the AR and COT features are added to a primary MADN group member appearing on key 1 of an MBS using the ADO command.

SERVORD example for CLASS on MBS/MADN Base in prompt mode

```
> SERVORD
S0:
> ADO
SONUMBER: NOW 89 6 12 PM
>
DN_OR_LEN:
> 7224023
LEN:
> HOST 00 0 10 01
OPTKEY:
> 1
OPTION:
> AR
KEYLIST:
> 1
KEYLIST:
> $
OPTKEY:
> 1
OPTION:
> COT
KEYLIST:
> 1
KEYLIST:
> $
OPTKEY:
> $
COMMAND AS ENTERED:
ADO NOW 89 6 12 PM 7224023 HOST 00 0 10 01 (1 AR (1) $)
( 1 COT (1) $ ) $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
> Y
```

CLASS on MBS/MADN Base (continued)

SERVORD example for CLASS on MBS/MADN Base in no-prompt mode

```
> ADO $ 7224023 HOST 00 0 10 01 1 AR 1 $ 1 COT 1 $ $ Y
```

The following example shows how the COT feature is added to key 5. The COT option is also associated with all existing DNs on the set.

Note: In the following example, the SUSP (subscription usage sensitive pricing) entry in table AMAOPTS is set to OFF. The BILLING_OPTION prompt does not display because of the SUSP entry.

SERVORD example for CLASS on MBS/MADN Base in prompt mode

```
> SERVORD
S0:
> ADO
SONUMBER: NOW 98 5 5 PM
>
DN_OR_LEN:
> 7224023
OPTKEY
>5
OPTION:
> COT
KEYLIST:
> $
OPTKEY:COMMAND AS ENTERED:
  ADO NOW 98 5 5 PM 7224023 (5 COT ($)) $
  ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
> Y
```

SERVORD example for CLASS on MBS/MADN Base in no-prompt mode

```
> ADO $ 7224023 5 COT $ $ Y
```

The following example shows how the COT feature is added to key 6. The COT option is associated with only the DN on key 1.

Note: In the following example, the SUSP (subscription usage sensitive pricing) entry in table AMAOPTS is set to OFF. The BILLING_OPTION prompt does not display because of the SUSP entry.

CLASS on MBS/MADN Base (continued)

SERVORD example for CLASS on MBS/MADN Base in prompt mode

```
> SERVORD
S0:
> ADO
SONUMBER: NOW 98 5 5 PM
>
DN_OR_LEN:
> 7224023
OPTKEY
>6
OPTION:
> COT
KEYLIST:
>1
OPTKEY:
>$
COMMAND AS ENTERED:
  ADO NOW 98 5 5 PM 7224023 (6 COT (1) $
  ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
>Y
```

SERVORD example for CLASS on MBS/MADN Base in no-prompt mode

```
> ADO $ 7224023 6 COT 1 $ Y
```

Adding ACB to a MADN group member is identical to adding this feature to a non-MADN line with a 500/2500 set, except that both the DN and the LEN must be specified to uniquely identify the MADN group member.

The following example shows how ACB is added to a primary MADN group member appearing on key 1 of an MBS using the ADO command.

CLASS on MBS/MADN Base (continued)

SERVORD example for CLASS on MBS/MADN Base in prompt mode

```

> SERVORD
SO:
> ADO
SONUMBER: NOW 89 6 12 PM
>
DN_OR_LEN:
> 7224023
LEN:
> HOST 00 0 10 01
OPTKEY:
> 1
OPTION:
> ACB
KEYLIST:
> 1
KEYLIST:
> $
OPTKEY:
> $
COMMAND AS ENTERED:
ADO NOW 89 6 12 PM 7224023 HOST 00 0 10 01 (1 ACB (1)
$) $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
> Y

```

SERVORD example for CLASS on MBS/MADN Base in no-prompt mode

```

> ADO $ 7224023 HOST 00 0 10 01 (1 ACB (1) $ ) $ Y

```

The following example shows how ACB is added to a secondary MADN group member with a 500/2500 set, using the ADO command.

CLASS on MBS/MADN Base (continued)

SERVORD example for CLASS on MBS/MADN Base in prompt mode

```
> SERVORD
S0:
> ADO
SONUMBER: NOW 89 6 12 PM
>
DN_OR_LEN:
> 7224023
LEN:
> HOST 00 1 18 22
OPTION:
> ACB
OPTION:
> $
COMMAND AS ENTERED:
ADO NOW 89 6 12 PM 7224023 HOST 00 1 18 22 ( ACB ) $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
> Y
```

SERVORD example for CLASS on MBS/MADN Base in no-prompt mode

```
> ADO $ 7224023 HOST 00 1 18 22 ( ACB ) $ Y
```

The CLASS display features CND and DDN must be assigned on an individual MADN group member basis. Adding CND or DDN to a MADN group member is identical to adding these features to a non-MADN group member, except that both the DN and the LEN must be specified to uniquely identify the MADN group member.

Note 1: CND and DDN are available to MADN group members only on 500/2500 sets. The 500/2500 sets require an adjunct set with display capabilities to receive CLASS calling party display information.

Note 2: CND and DDN are incompatible and cannot be assigned to the same line. The Long Distance Indicator (LDI) feature operates in conjunction with the CLASS display features, but cannot be assigned independently to a line.

The following example shows how DDN is added to a MADN group member with a 500/2500 set, using the ADO command.

CLASS on MBS/MADN Base (end)

SERVORD example for CLASS on MBS/MADN Base in prompt mode

```
> SERVORD
SO:
> ADO
SONUMBER: NOW 89 6 12 PM
>
DN_OR_LEN:
> 7224023
LEN:
> HOST 00 1 18 22
OPTION:
> DDN
OPTION:
> $
COMMAND AS ENTERED:
  ADO NOW 89 6 12 PM 7224023 HOST 00 1 18 22 ( DDN ) $
  ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
> Y
```

SERVORD example for CLASS on MBS/MADN Base in no-prompt mode

```
> ADO $ 7224023 HOST 00 1 18 22 ( DDN ) $ Y
```

CLASS on MDC Base

Ordering codes

Operating group ordering code: MDC00004

Operating ordering code: does not apply

Release applicability

NA013 and later versions

Requirements

To operate, CLASS on MDC Base has the following requirements:

- BAS Generic, BAS00003
- MDC Standard, MDC00003
- MDC Minimum, MDC00001
- RES Service Enablers, RES00006

Network configuration

The network or interoffice configuration of CLASS on MBS Phase I and II requires Common Channel Signaling No. 7 (CCS7) connectivity. The CCS7 connectivity requires the following feature packages:

- Base ISUP, ISP70001
- TEL CCS7 Base, TEL00008

Description

The CLASS on MDC Base feature provides the following Custom Local Area Signaling Services (CLASS) features. These features are available in the Meridian Digital Centrex (MDC) environment with a line class code (LCC) of IBN:

- Automatic Call Back (ACB)
- Automatic Recall (AR)
- Customer Originated Trace (COT)
- Calling Number Delivery (CND)
- Dialable Number Delivery (DDN)

Note 1: Calling Number Delivery Blocking (CNDB) is available in the MDC environment with the feature AG1550, Calling Name/Number Delivery Blocking. See section, "Calling Name/Number Delivery Blocking (CNNB)," in this document.

CLASS on MDC Base (continued)

Note 2: The display features CND and DDN are not compatible. You cannot assign these display features to the same line.

CLASS feature packages

The assignment of the individual CLASS features requires the following feature packages:

- RES Non Display Services, RES00005
- RES Display Function and Privacy, RES00005
- RES Display Function and Privacy, RES00003

CLASS feature descriptions

This section describes how the CLASS features that CLASS provides on MDC Base operate in the MDC environment, LCC of IBN. See the individual CLASS feature descriptions for information about the operation of CLASS features in the Subscriber Services RES environment, LCC of RES. Table 1 of "CLASS on MVP Base" lists the location of each feature description in other chapters in this document.

MDC attributes

The MDC environment has attributes that make the MDC environment different from the residential environment. These attributes appear in the following list:

- flexible and private dial plans
- customer groups
- private trunking
- LCC of IBN

Call memory

Call memory retains data about the last incoming and last outgoing call from line of a subscriber.

Automatic Call Back

The CLASS on MDC Base allows ACB to interact with the MDC dial plan. The ACB activation is successful in the following conditions:

- The activation of ACB occurs when flashing or initiating a new call (going on-hook and then off-hook).
- The activation of ACB occurs when the last outgoing call goes through extension dialing. The ACB call uses the same dialed extension to complete the call.

CLASS on MDC Base (continued)

- The activation of ACB occurs when the last outgoing call goes through 9+ dialing to access the public network. The ACB call uses the same public number to complete the call.
- The activation of ACB occurs when the user makes the last outgoing call through the electronic switch network (ESN) dialing. The ACB call uses the same ESN number to complete the call.

The assignment of ACB occurs on an individual line basis. The activation of ACB occurs for calls made both in and outside the customer group.

ACB TCAP translations in RES

The term TCAP translations, or transaction capability application part, refers to translations necessary to derive a TCAP DN from a dialed number. The TCAP translations use table DNREVLXA. The TCAP translations and reverse translations perform opposite functions. Reverse translations for AR and DDN use table DNREVLXA. The TCAP translations derive the ten-digit TCAP number from a dialable number. Reverse translations derive the dialable number from a ten-digit number. The AR and DDN use reverse translations.

The ACB TCAP translations are for use only in the North American POTS dial plan. The ACB TCAP translations derive the following information from the dial plan:

- The called number in the OCM can be 7, 8, 10 or 11 digits in length. Any other number of digits in the called number results in long-term denial treatment for ACB.
- If the called number is 11 digits, the format of the number is 1 + NPA-NXX-XXXX. Derivation of the TCAP DN occurs internally. This process does not use datafill. The system strips off the 1 and uses the remaining ten digits as the TCAP DN.
- If the called number is ten digits, the format of the number is NPA-NXX-XXXX. Determination of the TCAP DN occurs internally. This process occurs with the use of the called DN in dialed form as the TCAP DN.
- If the called number is eight digits, assume the format of the number is 1 + NPA-NXX-XXXX. Derivation of the TCAP DN occurs internally. This process does not use datafill. The NPA is the same as the ACB subscriber. Append the NPA to the dialed number after the removal of the 1. The result is the ten-digit TCAP DN.
- If the called number is seven digits, the format of the number is NPA-NXX-XXXX. The NPA is ambiguous. To find the NPA, ACB, the

CLASS on MDC Base (continued)

service assumes that the MPA of the destination is the same as the MPA of the ACB subscriber.

The residential installation of ACB uses the internally defined ACB DN translator for the preceding seven-digit number example. This DN translator allows conversion of a number in dialed form to the TCAP form for the POTS dial plan. Corresponding datafill in Tables DNREVVXLA and DNREGION allows this conversion.

See section "Automatic Call Back/Automatic Recall (ACB/AR)" in this document for additional information about TCAP translations.

Options PRITCXLA and PUBTCXLA in Table CUSTHEAD

The single ACB TCAP translator for an office is not sufficient for multiple networks and flexible dial plans in the MDC environment. The use of prefix digits can provide access to different networks for individual customer groups. For example, the digit 9 provides public network access. The use of abbreviated dialing can provide access to different networks for individual customer groups. An example of abbreviated dialing is two-to seven-digit extension dialing.

To accommodate this complicated dial plan environment, table CUSTHEAD provides options PRITCXLA and PUBTCXLA. These customer group options provide the ability to datafill TCAP translator names for separate customer groups. Use field PRITCXLA to specify a private network TCAP translator name for a customer group. Field PUBTCXLA specifies a public network TCAP translator name for the customer group. All MDC customer groups with access to applications that require the conversion of dialed numbers to TCAP numbers use option PRITCXLA. An example of a TCAP number is ACB. This process defines the TCAP translator names for numbers dialed on the private network. This process defines numbers that access the public network. An example is 9 + calls.

Correct TCAP translator names for options PUBTCXLA and PRITCXLA have the same format as field RXLANAME in table DNREVVXLA. Assign the internally defined ACB TCAP translator name to option PUBTCXLA.

Use a TCAP translator name to datafill Table DNREVVXLA with customer group specific TCAP translations. This TCAP translator name must be defined with one of the two new options. Data entry in DNREVVXLA tuples for TCAP translations depends on the translator name. The following sections describe how table CUSTHEAD datafill, PRITCXLA and PUBTCXLA datafill, and table DNREVVXLA datafill relate to public and private network dial plan applications. An example of public network dial plan application is ACB in RES. An example of a private network dial plan application is ACB in MDC.

CLASS on MDC Base (continued)

See "Use of option PUBTCXLA in table CUSTHEAD" in "Automatic Call Back/Automatic Recall (ACB/AR)" in this document. This section provides additional information on the RES application of ACB.

Using options PRITCXLA and PUBTCXLA for ACB in MDC

Each MDC customer group in an office with access to an application that requires TCAP translations must have option PRITCXLA assigned in Table CUSTHEAD. Data entry for this option defines the private network TCAP translator name for the customer group. Use option PUBTCXLA to define the public network TCAP translator name for the customer group.

For each possible private network dialable number format in each customer group, add a new tuple to table DNREVXLA. Fill field RXLANAME of each tuple with the private network TCAP translator name of the correct customer group.

Fill fields FROMDIGS and TODIGS of each tuple with the range that represents the particular called number format for the customer group.

Specify the DEFAULT region in field REGION of these new tuples. Specify the DEFAULT region for a particular dialed number. The TCAP translations result remains the same regardless of which party in the customer group made the call. The calling and called numbers in most cases have different formats. For example, the calling number is a ten-digit DN but the called number is a five-digit extension. The occurrence of two numbers in the same area cannot be determined.

The TCAP translations for public network access numbers, usually of format 9+, proceed in two stages. The first stage removes the public network access prefix digit(s) from the dialed number. The second stage takes the result, a 7-, 8-, 10- or 11-digit public network number. The second stage converts the public network number to a TCAP number. Note that only one tuple for each customer group is necessary to handle the first stage. Datafill these tuples to create a result that only removes the public network access digits. For example, if the dialed number is 9-1-613-222-2468, the result should be 1-613-222-2468. The result can be a 7-, 8-, 10- or 11-digit number.

The second stage does the following:

- If the result is an 8-digit, 10-digit, or 11-digit number, the system automatically derives the TCAP number. This process occurs without the use of table DNREVXLA datafill. The system bases this process on the POTS ACB TCAP translation rules.
- If the result is a seven-digit number, the following occurs. The system automatically uses the public network translator name of the customer

CLASS on MDC Base (continued)

group to access DNREVLXLA datafill. This process adds the NPA to form the TCAP number. Obtain this translator name from option PUBTCXLA for the customer group, if present. If option PUBTCXLA is not present, use the internally defined ACB translator name. If table DNREVLXLA datafill does not correspond to the dialed number, the NPA of the calling number added results in the TCAP number.

Note: In the preceding seven-digit case, the public network translator name for each customer group in the office can be the same. If the names are the same, table DNREVLXLA requires only one set of public network TCAP translation datafill. This requirement also applies to POTS ACB. If all RES customer groups in the office have a public network translator name entered, the following condition is present. Only one set of public network TCAP datafill is necessary in Table DNREVLXLA. All RES and MDC users share this set of datafill. This datafill process is consistent with the datafill of MDC TCAP translations. The name used is the same as for all the MDC customer groups.

The TCAP translations that use a PRITCXLA translator name of a customer group translator name must result in the following. A TCAP (10-digit) DN or a public network number (7, 8, or 11 digits) are the results that must occur. If these conditions do not occur, ACB activation fails and results in long-term denial treatment.

Examples of ACB in MDC translations

The examples in the following table demonstrate the number formats that members of two customer groups dial. These examples demonstrate the corresponding TCAP format of the numbers. This is an example of datafill. This datafill does not imply, for example, that only two- and four-digit abbreviated dialing formats are available. Restrictions do not apply to dialed number formats.

Note: The system converts the last three dialed number formats for each customer group internally. This process does not require datafill. Like POTS ACB, only the seven-digit public network dialed number (9-NPA-NXXX) requires datafill for TCAP translations.

ACB in MDC translations, customer group A (Sheet 1 of 2)

Number dialed by subscriber	Corresponding TCAP number
3-XXXX	613-763-XXXX
5-XXXX	613-765-XXXX

CLASS on MDC Base (continued)**ACB in MDC translations, customer group A (Sheet 2 of 2)**

Number dialed by subscriber	Corresponding TCAP number
6-393-XXXX	613-763-XXXX
6-395-XXXX	613-765-XXXX
6-363-XXXX	819-723-XXXX
9-NXX-XXXX	NPA-NXX-XXXX
9-1-NXX-XXXX	NPA-NXX-XXXX
9-NPA-NXX-XXXX	NPA-NXX-XXXX
9-1-NPA-NXX-XXXX	NPA-NXX-XXXX

ACB in MDC translations, customer group B

Number dialed by subscriber	Corresponding TCAP number
9-1-NPA-NXX-XXXX	NPA-NXX-XXXX
2X	613-763-282X
4X	613-765-284X61
6-257-XXXX	613-867-XXXX
6-368-XXX	613-765-XXXX
9-NPA-XXXX	NPA-NXX-XXXX
9-1-NPA-XXXX	NPA-NXX-XXXX
9-NPA-NXX-XXXX	NPA-NXX-XXXX
9-1-NPA-NXX-XXXX	NPA-NXX-XXXX

Table CUSTHEAD and table DNREVLXA requires the datafill that appears in the following table. These tables use the data to derive the TCAP version of dialed numbers. Option PUBTCXLA for the customer groups is not set to ACB. This condition means that the table DNREVLXA datafill for public network numbers follows MDC private network table DNREVLXA datafill.

CLASS on MDC Base (continued)

Table CUSTHEAD:

CUSTNAME	CUSTXLA	DGCOLNM	IDIGCOL	OPTIONS
RESGRP	RESXLA	RES	NIL	(PUBTCXLA RESTCXLA) \$
CUSTGRPA	PRIXLA	NDGT	NIL	(PRITCXLA ATCAPXLA) (PUBTCXLA RESTCXLA) \$
CUSTGRPB	PRIXLA	NDGT	NIL	(PRITCXLA BTCAPXLA) (PUBTCXLA RESTCXLA) \$

Table DNREVLXLA:

RXLNAME	FROMDIGS	TODIGS	RESULTS
ATCAPXLA	6393	6393	(DEFAULT 3 61376 N) \$
ATCAPXLA	6395	6395	(DEFAULT 3 61376 N) \$
ATCAPXLA	3	3	(DEFAULT 0 61376 N) \$
ATCAPXLA	5	5	(DEFAULT 0 61376 N) \$
ATCAPXLA	9	9	(DEFAULT 1 N N) \$
BTCAPXLA	6257	6257	(DEFAULT 3 61386 N) \$
BTCAPXLA	6368	6368	(DEFAULT 4 613765 N) \$
BTCAPXLA	2	2	(DEFAULT 0 6137628 N) \$
BTCAPXLA	4	4	(DEFAULT 0 6137628 N) \$
BTCAPXLA	9	9	(DEFAULT 1 N N) \$
RESTCXLA	723	723	(DEFAULT 0 819 N) \$

range of calling numbers

Option PUBTCXLA for the customer groups is ACB in the following example. This condition means that the ACB public translator name is in use. The datafill is not compatible with the private network TCAP translator datafill.

Note: See "Automatic Call Back/Automatic Recall (ACB/AR)" for more information on TCAP translations.

CLASS on MDC Base (continued)

Table CUSTHEAD:

CUSTNAME	CUSTXLA	DGCOLNM	IDIGCOL	OPTIONS
RESGRP	RESXLA	RES	NIL	(PUBTCXLA ACB) \$
CUSTGRPA	PRIXLA	NDGT	NIL	(PRITCXLA ATCAPXLA) (PUBTCXLA ACB) \$
CUSTGRPB	PRIXLA	NDGT	NIL	(PRITCXLA BTCAPXLA) (PUBTCXLA ACB) \$

Table DNREVXLA:

RXLNAME	FROMDIGS	TODIGS	RESULTS
ATCAPXLA	6393	6393	(DEFAULT 3 61376 N) \$
ATCAPXLA	6395	6395	(DEFAULT 3 61376 N) \$
ATCAPXLA	3	3	(DEFAULT 0 61376 N) \$
ATCAPXLA	5	5	(DEFAULT 0 61376 N) \$
ATCAPXLA	9	9	(DEFAULT 1 N N) \$
BTCAPXLA	6257	6257	(DEFAULT 3 61386 N) \$
BTCAPXLA	6368	6368	(DEFAULT 4 613765 N) \$
BTCAPXLA	2	2	(DEFAULT 0 6137628 N) \$
BTCAPXLA	4	4	(DEFAULT 0 6137628 N) \$
BTCAPXLA	9	9	(DEFAULT 1 N N) \$
ACB	763	765	(ACBREG1 0 613 N) \$
			(ACBREG2 0 819 N) \$
ACB	867	867	(ACBREG3 0 613 N) \$
			(ACBREG4 0 819 N) \$


range of calling numbers

Automatic Recall

Customer group restrictions do not apply to MDC subscriber assignment or activation of AR. Assign AR to individual lines. Active AR for calls that originate both inside and outside the customer group.

The AR takes the ten-digit DN of the calling party from the ICM. The AR performs reverse translations on that DN to derive the dialable DN. Install the reverse translations datafill for AR in MDC in the same method as the installation for Meridian business set (MBS) display. The MBS display is the translator name entered in table CUSTNTWK. If the office has the MBS

CLASS on MDC Base (continued)

display, and reverse translations datafill provides support, AR uses the same datafill.

Note: Refer to feature AG0981, Network Dial Plan Display, in the *Translations Guide* for more information on reverse translations for MBS display.

The result of reverse translations can be an ESN number, a 9 + number, or an extension. The AR call setup succeeds with any of these reverse translations results.

The AR operates in an office across IBN ISUP trunks. The number the incoming memory slot (IMS) stores is not always suitable for TCAP use. The number that the IMS stores can be a private network number. If only public network numbers are in use for TCAP, derive the public network TCAP number. Use PRITCXLA and PUBTCXLA datafill to derive the TCAP number. The system performs reverse translations to derive the dialable number from the number that the IMS stores. When this process occurs, access PRITCXLA and PUBTCXLA datafill with the derived dialable number as input. The output of PRITCXLA and PUBTCXLA translations is a TCAP number.

Note: If ACB is available in the same customer group as AR, the PRITCXLA and PUBTCXLA datafill for the services is similar. Additional datafill is not necessary for options PRITCXLA and PUBTCXL for AR if the datafill is already present for ACB.

Reverse translations in MDC

Reverse translations allows formatting the number of the calling party to a form consistent with the plan of the calling party dial. The following two data tables perform reverse DN translations:

- Table DNREGION groups DNs in regions. For example, table DNREGION identifies seven-digit regions. These seven-digit regions are groups of telephone numbers. In these groups, place calls by dialing seven digits.
- Table DNREVLXLA contains sets of digit manipulation algorithms based on the different regions that appear in Table DNREGION. Use a digit manipulation algorithm in the AR and DDN application of reverse translations. Use this algorithm for all calls where the dialable DN is not a ten-digit number.

These two tables specify the method of the manipulation of the destination digits. This manipulation is based on if the originator and the destination share a particular region.

CLASS on MDC Base (continued)

Table DNREGION

Table DNREGION groups DNs into regions. Entries in this table reflect the dial plan for the regions the central office (CO) serves.

Each DN region in table DNREGION has a different region name and comprises one or more ranges of DNs.

A tuple in table DNREGION associates a region name with one range of DNs. Define a DN region that consists of two or more ranges of DNs with multiple tuples.

Examples of DN regions in use for processing AR and DDN calls appear in the following list:

- local calling areas in which calls are made through dialing seven digits.
- private dialing plans that share a common dialing sequence.

Table DNREVXLA

Table DNREVXLA contains tuples that define sets of digit manipulation algorithms.

The AR and DDN features use multiple tuples. Each tuple applies to a range of calling DNs. Each tuple can contain several digit manipulation algorithms. The system associates each digit manipulation algorithm in a tuple with a DN region. Application of an algorithm occurs when the calling DN and the DN of the subscriber are in the DN region.

Customer group network data

Use table CUSTNTWK specifies network information for separate customer groups. This table provides reverse translations information for each customer group.

For lines that belong to an MDC customer group (LCC of IBN), field DNREVXLA in table CUSTNTWK specifies which reverse translator is in use. This specification is based on the network over which the call is made. The subfields NETNAME and RXLANAME associate a network name and a reverse translator. The subfield NUMDIGS indicates the number of digits to use for the reverse translations process.

Note: Indicate a maximum of four reverse translators in field DNREVXLA of Table CUSTNTWK.

CLASS on MDC Base (continued)

Option CLID

Assign option CLID to a customer group in table CUSTNTWK to allow the display of calling party information. This information applies to networked calls to subscribers in a customer group in which phones have display capability. The subfield CLIDOPT in field OPTIONS can have a value of ONNET for on-network calls, or OFFNET for off-network calls. If the value is ONNET, the display of calling party information is enabled for calls. These calls are only from the private network of the customer. This network appears in field NETNAME. If the indication of OFFNET occurs, the display of calling party information is available for all networked calls. The origin of the calls does not affect the display. If the value is INTRAGROUP, the display of calling party information is for calls. The availability applies only to calls in the same customer group as the calling party.

Calling Number Delivery and Dialable Number Delivery

The CND displays the ten-digit DN of the calling party. The DN is a public network number or a private network number. The number depends on the network of the call and how data entry of the DN of the originator occurs in the office of the originator.

The DDN uses reverse translations to convert a ten-digit DN to a dialable number for display. The DDN determines the network that the incoming call uses before deriving the dialable DN. See "Dialable Number Delivery (DDN)" for more details on DDN.

The CND and DDN in the MDC environment are subject to the same terminating display controls the MBS display uses. Refer to feature AG0981, Network Dial Plan Display, in the *Translations Guide* for details on the terminating display controls.

Customer Originated Trace

The information that the LINE150 and LINE151 COT logs contains is different for MDC lines. The COT uses the form of number that the ICM stores. The number form that the ICM of a COT MDC line stores depends on if the traced call occurs on a private network or a public network.

Field NETWORK in the LINE150 and LINE151 logs indicates the network on which the traced call occurs. The ICM contains the network data.

The assignment of COT to MDC subscribers does not have restrictions. The activation of COT by MDC subscribers does not have restrictions. The assignment of COT occurs for individual lines. The COT traces calls from lines inside and outside the customer group.

CLASS on MDC Base (continued)

Calling Number Delivery Blocking

The CNDB is the basis for the CLASS on MDC number suppression feature. The CNDB allows a subscriber to suppress the availability of the number of the subscriber to the called party for individual calls.

See "Calling Name/Number Delivery Blocking (CNNB)" for more information on CNDB and name suppression.

Translations table flow

Refer to the individual CLASS feature descriptions for translations data flow information for each feature. Table 1 of "CLASS on MVP Base" lists the location of CLASS feature descriptions in this document. See "Verification tools" in this feature for a description of the reverse translations tool (REVXLVER).

Limits

The following limits apply to CLASS on MDC Base:

- The OCM can capture dialable numbers of a maximum of 24 digits in length, but the following restrictions apply:
 - The ACB and AR can operate with numbers of a maximum of 18 digits only. Long-term denial treatment occurs otherwise.
 - The number returned as a result of reverse translations can be a maximum of 21 digits in length. The DDN can display numbers of a maximum of 21 digits.
- The ACB and AR remain the only features to deliver calling party information on recall ringing.
- The ACB and AR provide long-term denial treatment to correct DN's with octothorpes or asterisks as part of the address.
- All CLASS on MDC features that display are subject to the same terminating display controls that MBSs use.
- The ACB and AR are not compatible with the following line options:
 - AUL
 - AVT
 - BNN
 - CCSA
 - DOR
 - DTM
 - FIG

CLASS on MDC Base (continued)

- LDTPSAP
- PCWT
- PREMTBL
- RAG
- 3WCPUB
- The COT is not compatible with the following line options:
 - AUL
 - AVT
 - CCSA
 - DOR
 - DTM
 - PCWT
 - PREMTBL
 - 3WCPUB
- The CND is not compatible with the following line options:
 - AVT
 - CCSA
 - DDN
 - DTM
 - LDTPSAP
 - PREMTBL
 - 3WCPUB
- The DDN is not compatible with the following line options:
 - AVT
 - CCSA
 - CND
 - DTM
 - LDTPSAP
 - PREMTBL
 - 3WCPUB

CLASS on MDC Base (continued)

Interactions

The interactions of CLASS features in the MDC environment are more difficult than interactions in the RES environment. Some interactions between CLASS and MDC features appear in the individual CLASS feature descriptions in other chapters in this document. Table 1 of "CLASS on MVP Base" lists the location of each feature description in other chapters in this document. This section describes additional interactions of CLASS on MDC Base.

The interactions between CLASS on MDC Base and other functionalities appear in the following paragraphs.

Automatic Call Distribution

When station A calls an Automatic Call Distribution (ACD) DN, the system updates the OCM of station A with the ACD DN. The system updates the ICM of any ACD agent. Station A queues the ICM of any ACD agent. Station A connects to the ICM of any ACD agent. If the ACD queue is full, ICM updates do not occur.

Call Back Queuing

Call Back Queuing (CBQ) is not compatible with ACB and AR.

Call Forwarding Busy

The ACB cannot follow the path to the forward-to station of a busy station with CFB active. For example, station A uses ACB to call station B with Call Forwarding Busy (CFB) active. Station B is busy. The ACB does not forward to station C. Station A receives recall ringing when station B becomes idle.

Call Forwarding Busy External Deny

Call Forwarding Busy External Deny (CBE) has the same interactions as CFB.

Call Forwarding Busy Intragroup Deny

Call Forwarding Busy Intragroup Deny (CBI) has the same interactions as CFB.

Call Forwarding Busy Unrestricted

Call Forwarding Busy Unrestricted (CBU) has the same interactions as CFB.

Call Forwarding Don't Answer

A station with Call Forwarding Don't Answer (CFDA) does not affect ACB/AR activation from another station. For example, station A uses ACB to call station B with CFDA active. Station B is idle. The ACB attempts to place the call. If station B does not answer, the call travels to station C, the

CLASS on MDC Base (continued)

forward-to station. If station B is busy, station A receives recall ringing when station B becomes idle.

Call Forwarding Don't Answer External Deny

Call Forwarding Don't Answer External Deny (CDE) has the same interactions as CFDA.

Call Forwarding Don't Answer Intragroup Deny

Call Forwarding Don't Answer Intragroup Deny (CDI) has the same interactions as CFDA.

Call Forwarding Don't Answer Unrestricted

Call Forwarding Don't Answer Unrestricted (CDU) has the same interactions as CFDA.

Call Forwarding Don't Answer Variable Timer

Call Forwarding Don't Answer Variable Timer (CFDVT) has the same interactions as CFDA.

Call Forwarding Fixed

Activation of ACB and AR against a station with Call Forwarding Fixed (CFF) cannot occur. For example, station A cannot activate ACB or AR to station B when station B has CFF active. The system provides a short term denial treatment in this event.

Station B has CFF active and activates ACB or AR against a busy station. When this process occurs, the system applies ACB/AR recall ringing to station B. The system does not apply ACB/AR recall ringing to station C which is the forward-to station.

Call Forwarding Intragroup

Call Forwarding Intragroup (CFI) has the same interactions as CFF.

Call Forwarding Universal

Call Forwarding Universal (CFU) has the same interactions as CFF.

Call forwarding to the first member of a hunt group updates the ICM of the member with calling party information. Subsequent forwarding to another hunt group member updates the ICM of the member.

Call Park

An ACB/AR request to a station that is parked does not receive a set up until the station becomes idle.

CLASS on MDC Base (continued)

Call memory changes or display set updates do not occur when the system parks or retrieves the call. If the system takes a parked call from a third station, the following condition applies. Do not use COT from that station to trace the identity of the picked up call.

The ICM of the station that activates Call Park (PRK) does not contain correct information for a parked station COT log under the following conditions:

- the parker received another incoming call while the original call was parked
- the parker originated the call to the parked station

Call Waiting Dial

Call Waiting Dial (CWD) has the same interactions as CWO.

Call Waiting Originating

The ACB/AR ignores the Call Waiting Originating (CWO) status of an originating station. For example, station A (the originating station with CWO) uses ACB to call station B. Station B is busy. Station A receives recall ringing when station B becomes idle.

Cancel Call Waiting

Cancel Call Waiting (CCW) cancels a call of a subscriber that waits on an individual call basis. The system does not update the ICM with incoming calling party information for a station with CCW active while on the call.

Denied Incoming

If station A terminates on station B, the system updates the ICM of Station B with calling party information. Station B has Denied Incoming (DIN) activated. If station A does not terminate on station B, the ICM of Station B does not receive an update. The system updates the OCM of station. The system sets the field DN_UNUSABLE to true.

The ACB/AR requests from station A to station B result in long term denial treatment if the system sets field DN_UNUSABLE to true.

Directed Call Park

Directed Call Park (DCPK) has the same interactions as PRK.

Directed Call Pickup Barge In

Call updating does not occur when Directed Call Pickup Barge In (DCBI) is in use to barge into a call. The COT information in the ICM before DCBI takes place is available for COT. Do not use COT to trace the number that initiates DCBI.

CLASS on MDC Base (continued)

Do Not Disturb

Station B has Do Not Disturb (DND) activated. When this process occurs, the system does not allow station A to terminate on station B during the specified times of day. The system does not update the ICM of station B.

Executive Busy Override Originate

Executive Busy Override Originate (EBO) has the same interactions as DCBI.

Expensive Route Warning Tone

When the activation of ACB/AR occurs, the subscriber can disregard the Expensive Route Warning Tone (ERWT) when call setup occurs. Call setup occurs because ACB/AR delayed processing does not recognize time-of-day routing as a factor.

Flexible Station Controlled Conference

The system updates the OCM of the controlling station to contain the DN of the latest dialed conferee. The system updates the ICM of each conferee with the DN of the calling, or controlling, station. If the calling station drops out of the call, memory changes do not occur. The same process applies if any conferee drops out of the call.

The calling station cannot activate ACB/AR to add a conferee.

The system updates calling party information for conferees to contain the DN of the controlling station.

The activation of CCW then ACB activates CCW for the call. The following activation of ACB ignores the CCW activation.

Internal/External Call Forwarding Busy

Internal/External Call Forwarding Busy (IECFB) has the same interactions as CFB.

Internal/External Call Forwarding Don't Answer

Internal/External Call Forwarding Don't Answer (IECFD) has the same interactions as CFDA.

Make Set Busy Intragroup

Station B has Make Set Busy Intragroup (MSBI) activated. When this process occurs, station A cannot terminate on station B if both stations are in the same customer group. The ICM of Station B does not receive an update.

CLASS on MDC Base (continued)

Message Waiting

Activate Message Waiting (MWT) from station A to station B if both stations have MWT assigned to the lines.

When station B calls station A, the system updates call memory. If station A is busy or does not answer, the system supplies MWT indication to station A. When station A retrieves the MWT request, the system updates the ICM of Station B. The system does not update the OCM of Station A.

When station B calls station A, either station activates ACB/AR. Station A activation of AR does not affect the MWT indication on station A, or when station B activates ACB.

When station B calls station A, station A can use COT to trace station B under the following conditions:

- the first call occurred when station A was not busy
- station A did not receive any incoming calls since the first call from station B

Station B can use COT to trace station A when station A retrieves the MWT request from station B.

Night Service Trunk Answer From Any Station

The system updates the ICM of the Trunk Answer From Any Station (TAFAS) line where the system routes the call with the DN of the calling party.

Permanent Hold

A station that holds a call is busy. An ACB/AR request to the station causes call setup when the station becomes idle. The same interaction applies to a station that another station holds with the Permanent Hold (HLD) feature.

No display set updates occur on HLD or any pickup that follows.

Preset Conference and Large Preset Conference

The system activates the Preset Conference feature. When this process occurs, the system updates the OCM of the station initiating the conference with the DN of the main conference.

The system updates field DN of the ICM of the conferees with UNAVAILABLE. The system updates the display set of a conferee with an OUT OF AREA indication because the calling DN is not available.

CLASS on MDC Base (continued)

Conferees cannot obtain a successful COT trace until a new call terminates on that station. This new call is non-preset conference. This process occurs because the system updated field DN of the conferee ICM with UNAVAILABLE.

The ACB/AR requests receive long-term denial treatment.

Ring Again

Ring Again (RAG) is not compatible with ACB/AR.

Station-Specific Authorization Codes

A call that requires an AUTH code occurs through the activation of ACB. The system prompts the subscriber for the AUTH code before the system sets up the call. The subscriber receives recall ringing because the subscriber activated ACB/AR earlier. When this process occurs, the system prompts the subscriber for the AUTH code before the system sets up the call.

Station Message Detail Recording

When active, the Station Message Detail Recording (SMDR) feature produces a record for successful call completions from a subscriber station. For ACB/AR delayed processing, the production of a SMDR record does not occur until call setup occurs.

Time-of-Day NCOS

When the activation of ACB/AR occurs, the subscriber can receive a treatment when a call setup attempt occurs. The subscriber receives the treatment because ACB/AR delayed processing does not take into account time-of-day routing.

Time-of-Day Routing

When the activation of ACB/AR occurs, the system uses the routing scheme in effect at the time of call setup.

Uniform Call Distribution

When Station A calls a DN that the system installs with Uniform Call Distribution (UCD) groups, the system updates the OCM of Station A. The system updates the OCM of Station A with the UCD DN. The system updates the ICM of the UCD agent to which the system connects to station A. In the event that the UCD queue is full, ICM updates do not occur.

Station A can activate ACB to recall the UCD DN. The system sets up the call to an available UCD agent, unless the UCD queue is full. A UCD agent can activate AR to recall station A.

CLASS on MDC Base (continued)

Station A can activate ACB to recall the ACD DN. If at least one UCD agent logs in, call set up occurs. The call proceeds through UCD queueing. A UCD agent can activate AR to recall station A.

Activation/deactivation by the end user

See the individual CLASS feature descriptions for activation and deactivation procedures for each feature. Table 1 of "CLASS on MVP Base" lists the location of CLASS feature descriptions in this document.

Billing

See the individual CLASS feature descriptions for billing and subscription usage sensitive pricing (SUSP) information. This information applies to each feature. Table 1 of "CLASS on MVP Base" lists the location of CLASS feature descriptions in this document.

Station Message Detail Recording

The CLASS on MDC Base does not affect Station Message Detail Recording.

Datafilling office parameters

The CLASS on MDC Base does not affect office parameters. See the individual CLASS feature descriptions for information on data entry of office parameters for each feature. Table 1 of "CLASS on MVP Base" lists the location of CLASS feature descriptions in this document.

Datafill sequence

Tables that require datafill to implement CLASS on MDC Base appear in the following table. Tables appear in the correct entry order.

Datafill requirements for CLASS on MDC Base (Sheet 1 of 2)

Table	Purpose of table
DNREGION	Directory Number Region. This table contains information that groups DNs in regions.
DNREVXLA	Directory Number Reverse Translations. This table contains information on defining sets of digit manipulation algorithms.
CUSTNTWK	Customer Group Network. This table specifies the network name (NETNAME) associated with a customer group.

CLASS on MDC Base (continued)**Datafill requirements for CLASS on MDC Base (Sheet 2 of 2)**

Table	Purpose of table
CUSTHEAD	Customer Group Head. This table contains information that applies to all lines in a customer group.
CUSTSTN	Customer Group Station Option. This table contains the station options the system assigns to each customer group.

Datafilling table DNREGION

Table DNREGION (Directory Number Region) contains information that groups DNs in regions. These regions include the local calling areas defined for calls from the public network. These regions include regions for calls in a private network, like an ESN region.

Datafill that applies to CLASS on MDC Base for table DNREGION appears in the following table. The fields that apply to CLASS on MDC Base appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table DNREGION

Field	Subfield or refinement	Entry	Explanation and action
DNRGNKEY			DIRECTORY NUMBER REGION KEY. This field contains the subfields REGION, FROMDIGS, and TODIGS. Descriptions of these subfields appear below.
	REGION	1 to 15 alphanumeric	DN REGION NAME. This subfield specifies the DN region that the tuple defines. Enter 1 to 15 alphanumeric characters.
	FROMDIGS	1 to 11 digits	FROM DIGITS. This subfield specifies the lower bounds of a range of numbers that belong to the DN region in subfield REGION. Enter 1 to 11 digits.
	TODIGS	1 to 11 digits	TO DIGITS. This subfield specifies the upper bounds of a range of numbers that belong to the DN region in subfield REGION. Enter a value of 1 to 11 digits, but equal to or greater than the number indicated in subfield FROMDIGS.

CLASS on MDC Base (continued)

Datafill example for table DNREGION

Sample datafill for table DNREGION appears in the following example. This datafill defines private network PRIV_5DIGS. This datafill includes all the DNs that begin with digits 364, 365, 367, and 368.

MAP example for table DNREGION

TABLE: DNREGION		
REGION	FROMDIGS	TODIGS
PRIV_5DIGS	364	365
PRIV_5DIGS	367	368

Datafilling table DNREVLXLA

Table DNREVLXLA (Directory Number Reverse Translations) contains information on the definition of sets of digit manipulation algorithms.

Each tuple can contain several digit manipulation algorithms. Each digit manipulation algorithm in a tuple belongs with a DN region. The system applies an algorithm when the calling DN and the DN of the subscriber are in the associated DN region.

Use the customer group name to access table DNREVLXLA tuples. Table CUSTNTWK provides the link between the customer group name and the DN translator name.

Datafill for CLASS on MDC Base for table DNREVLXLA appears in the following table. The fields that apply to CLASS on MDC Base appear in this

CLASS on MDC Base (continued)

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

Datafilling table DNREVLXA (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
RVXLAKEY			DN REVERSE TRANSLATIONS KEY. This field contains the subfields RXLANAME, FROMDIGS, and TODIGS. The description of these subfields appear below.
	RXLANAME	1 to 8 alphanumeric	REVERSE TRANSLATOR NAME. This subfield specifies the DN translator name. A DN translator can have more than one tuple in Table DNREVLXA. All tuples that belong to the same DN translator must have the same DN translator name. Enter 1 to 8 alphanumeric characters.
	FROMDIGS	1 to 11 digits	FROM DIGITS. This subfield specifies the lowest DN of a range of calling party DNs to which this tuple applies. Enter 1 to 11 digits.
	TODIGS	1 to 11 digits	TO DIGITS. This subfield contains the highest DN of a range of calling party DNs to which this tuple applies. Enter a value of 1 to 11 digits. This value must be equal to or greater than the number that subfield FROMDIGS indicates.
RESULTS			TRANSLATIONS RESULTS. This field contains the subfields REGION, DELDIGS, PRFXDIGS, and OPTPRFX. The description of these subfields appear below.
	REGION	region name	DN REGION NAME. This subfield specifies the DN region name, defined before in Table DNREGION. Enter the region name. Note: Specify the DEFAULT region name in this subfield. The DEFAULT specifies a region that includes all possible DNs.
	DELDIGS	0 to 15	DELETE DIGITS. This subfield specifies the number of leading digits to delete from the calling party DN. Delete digits starting from the left. Enter a value from 0 to 15.

CLASS on MDC Base (continued)**Datafilling table DNREVLXLA (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	PRFXDIGS	prefix digits or N	PREFIX DIGITS. This subfield specifies the digits to add to the destination DN. Enter the prefix digits, or N if digits are not prefixed.
	OPTPRFX	prefix digits or N	OPTIONAL PREFIX. This subfield specifies digits that can be prefixed to the input digit string. This process is not a requirement. Enter N if there are not any optional prefix digits.

Datafill example for table DNREVLXLA

Sample datafill for table DNREVLXLA for a private network that uses the PRIVRXLA reverse translator appears in the following example. The network uses the reverse translator for calling party number conversion.

MAP example for table DNREVLXLA

TABLE: DNREVLXLA			
RXLNAME	FROMDIGS	TODIGS	RESULTS
PRIVRXLA	364	365	(PRIV_5DIGS 2 N N) \$
PRIVRXLA	367	828	(DEFAULT 0 6 N) \$

Datafilling table CUSTNTWK

Table CUSTNTWK (Customer Group Network) specifies the network name (NETNAME). The system associates this customer group with this name. This name provides a predetermined global numeric identifier (NETCGID) in the specified network name in use for the customer group through the network.

Datafill for CLASS on MDC Base for table CUSTNTWK appears in the following table. The fields that apply directly to CLASS on MDC Base appear

CLASS on MDC Base (continued)

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

Datafilling table CUSTNTWK (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		1 to 16 alphanumeric	CUSTOMER GROUP NAME. This field specifies the name of the customer group. Enter 1 to 16 alphanumeric characters.
NETNAME		1 to 31 alphanumeric	NETWORK NAME. This field identifies the name of the network that belongs to the customer group in Table NETNAMES. If the customer group of the originator and terminator are the same, the network specified in NETNAME is in use. If the customer group of the originator and terminator are different, the system uses the PUBLIC network. Enter 1 to 31 alphanumeric characters.
NETCGID		1 to 4096	NETWORK CUSTOMER GROUP IDENTIFIER. This field specifies the identifier for the customer group in field CUSTNAME. Each tuple in table CUSTNTWK must have a different global numeric identifier. Enter a value from 1 to 4096.
DNREVXLA			DIRECTORY NUMBER REVERSE TRANSLATOR. This field contains the subfields NETNAME, RXLANAME, and NUMDIGS. Descriptions of these subfields appear below.
	NETNAME	1 to 32 alphanumeric	NETWORK NAME. This subfield identifies the name of the network with which the reverse translator in subfield RXLANAME associates. Enter 1 to 32 alphanumeric characters.
	RXLANAME		REVERSE TRANSLATOR NAME. This subfield identifies the reverse translator to associate with the network name in subfield NETNAME.
	NUMDIGS		NUMBER OF DIGITS. This subfield specifies the number of digits to use for the reverse translations process by applications. The applications use the reverse translator identified in subfield RXLANAME.

CLASS on MDC Base (continued)**Datafilling table CUSTNTWK (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS			OPTIONS. This field contains the subfield CLIDOPT. The description of this field appears below.
	CLIDOPT	ONNET, OFFNET, or INTRAGROUP	CALLING LINE IDENTIFICATION OPTION. This subfield indicates the type of calls for which calling party information appears. A value of ONNET allows option CLID for all calls in the same network as the called party. A value of OFFNET allows option CLID for all networked calls, regardless of the origin. A value of INTRAGROUP allows option CLID only for calls that originate and terminate in the same customer group. Enter ONNET, OFFNET, or INTRAGROUP.

Datafill example for table CUSTNTWK

Sample datafill for table CUSTNTWK appears in the following example.

MAP example for table CUSTNTWK

TABLE: CUSTNTWK					
CUSTNAME	NETNAME	NETCGID	DNREVXLA	OPTIONS	
CUSTGRPA	PRIVATE	5	(PUBLIC POTXLA 10)	(PRIVATE PRIVXLA 7)	\$
			(CLID ONNET)		\$

Datafilling table CUSTHEAD

Table CUSTHEAD (Customer Group Head) contains information that applies to all lines in a customer group. Option PUBTCXLA allows the entry of public TCAP translator names for each customer group. Option PRITXCLA allows the entry of private TCAP translator names for each customer group.

Datafill for CLASS on MDC Base for table CUSTHEAD appears in the following table. The fields that apply to CLASS on MDC Base appear in this

CLASS on MDC Base (continued)

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

Datafilling table CUSTHEAD

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		1 to 16 alphanumeric	CUSTOMER GROUP NAME. This field specifies the name of the customer group. Enter 1 to 16 alphanumeric characters.
CUSTXLA		customer group translator	CUSTOMER TRANSLATOR. This field specifies the name of the customer group translator in table IBNXLA. Enter the customer group translator.
DGCOLNM		digit collection name	DIGIT COLLECTION NAME. This field specifies the digit collection name. Enter the digit collection name.
IDIGCOL		NIL	INTERNATIONAL DIGIT COLLECTION. This field specifies the international digit collection name. Enter NIL.
OPTIONS		PUBTCXLA, or PRITCXLA	OPTIONS. This field specifies the options the system assigns to the customer group. Enter PUBTCXLA for the public translator. Enter PRITCXLA for the private translator.
	PUBTCXLA	1 to 8 alphanumeric	PUBLIC TCAP TRANSLATOR. This subfield specifies a public TCAP translator in table DNREVLXLA. Enter 1 to 8 alphanumeric characters.
	PRITCXLA	1 to 8 alphanumeric	PRIVATE TCAP TRANSLATOR. This subfield specifies a private TCAP translator in table DNREVLXLA. Enter 1 to 8 alphanumeric characters.

Datafill example for table CUSTHEAD

Sample datafill for table CUSTHEAD appears in the following example.

CLASS on MDC Base (continued)**MAP example for table CUSTHEAD**

TABLE: CUSTHEAD

CUSTNAME	CUSTXLA OPTIONS	DGCOLNM	IDIGCOL
RESGRP	RESXLA (VACTRMT 0)	RES (EXTNCOS 0)	NIL (FEATXLA RXCFN) \$
CUSTGRPA	PRIXLA (PRITCXLA	NDGT ATCAPCXLA)	NIL (PUBTCXLA RESTCXLA) \$
CUSTGRPB	PRIXLA (PRITCXLA	NDGT BTCAPCXLA)	NIL (PUBTCXLA RESTCXLA) \$

Datafilling table CUSTSTN

Table CUSTSTN (Customer Group Station Option) contains the station options for each customer group. The AR, ACB, and COT are correct values for field OPTNAME. Tuples with these features as the OPTNAME allow the User Interface (UI) for the corresponding feature to adjust on a customer group basis.

Datafill for CLASS on MDC Base for table CUSTSTN appears in the following table. The fields that apply to CLASS on MDC Base 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 4)

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		1 to 16 alphanumeric	CUSTOMER GROUP NAME. This field specifies the name assigned to the customer group. Enter 1 to 16 alphanumeric characters.
OPTION			OPTION. This field contains variable subfields that correspond to the specified option. Descriptions of these subfield appear below.

CLASS on MDC Base (continued)

Datafilling table CUSTSTN (Sheet 2 of 4)

Field	Subfield or refinement	Entry	Explanation and action
OPTNAME		ACB, AR, or COT	OPTION NAME. This field specifies the option name. Enter ACB, AR, or COT. Note: If OPTNAME is ACB, the system prompts the following OPTION subfields for: RINGAPPL, RINGCYCL, TONES, RINGPTRN, and CNCLACT.
	RINGAPPL	1 to 12	RING APPLICATION. This subfield specifies the maximum number of times the system applies ringback to an activator of ACB. Enter a value from 1 to 12.
	RINGCYCL	2 to 7	RING CYCLE. This subfield specifies the number of 6-s ring cycles that recall the ACB activator. Enter a value from 2 to 7.
	TONES	Y, N	TONES. This subfield specifies if tones or announcements must be used as ACB subscriber feedback. Enter Y to indicate that the use of tones. Enter N to indicate the use of announcements as entered in table DRMUSERS.
	RINGPTRN	ACBARRP, or RAGRP	RING PATTERN. This subfield specifies the type of ringing pattern in use on ringback. Enter ACBARRP to indicate the ACB/AR recall ringing pattern. Enter RAGRP to indicate the Ring Again ringing pattern.
	CNCLACT	Y, N	CANCEL ACTIVATION. This subfield specifies if ACB activation must cancel all current queued ACB requests and queue only the new request. Enter N to allow continuous requests. Enter Y to allow ACB activation to cancel.
		ACB, AR, or COT	OPTION NAME. This field specifies the option name. Enter ACB, AR, or COT. Note: If OPTNAME is AR, the system prompts the following OPTION subfields: RINGAPPL, RINGCYCL, TONES, RINGPTRN, CNCLACT, and ACTLEVEL.

CLASS on MDC Base (continued)

Datafilling table CUSTSTN (Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	RINGAPPL	1 to 12	RING APPLICATION. This subfield specifies the maximum number of times the system applies ringback to an activator of AR. Enter a value from 1 to 12.
	RINGCYCL	2 to 7	RING CYCLE. This subfield specifies the number of 6-s ring cycles in use to recall the AR activator. Enter a value from 2 to 7.
	TONES	Y, N	TONES. This subfield specifies if tones, instead of announcements, should be in use as AR subscriber feedback. Enter Y to indicate the use of tones. Enter N to indicate the use of announcements as datafilled in Table DRMUSERS.
	RINGPTRN	ACBARRP, or RAGRP	RING PATTERN. This subfield specifies the type of ringing pattern on ringback. Enter ACBARRP to indicate the ACB/AR recall ringing pattern. Enter RAGRP to indicate the Ring Again ringing pattern.
	CNCLACT	Y, N	CANCEL ACTIVATION. This subfield specifies if AR activation should cancel existing queued AR requests and queue only the new request. Enter N to allow continuous requests. Enter Y to allow AR activation to cancel.
	ACTLEVEL	ONELEVEL or TWOLEVEL	ACTIVATION LEVEL. This subfield specifies the activation level for AR requests within the customer group. One-level activation means the subscriber dials the feature access code to activate the AR feature. Two-level activation means the subscriber receives a prompt after dialing the feature access code. The subscriber receives an announcement to dial 1 to proceed with the AR feature or to hang up. Enter ONELEVEL or TWOLEVEL.

CLASS on MDC Base (continued)**Datafilling table CUSTSTN (Sheet 4 of 4)**

Field	Subfield or refinement	Entry	Explanation and action
OPTNAME (cont'd)		ACB, AR, or COT	OPTION NAME. This field specifies the option name. Enter ACB, AR, or COT. Note: If OPTNAME is COT, the system prompts the following OPTION subfields for: TONES and ENF1LEVL.
	TONES	Y, N	TONES. This subfield specifies if tones, instead of announcements, should be in use as COT subscriber feedback. Enter Y to indicate the use of tones. Enter N to indicate that the type of confirmation and failure feedback depends on the setting of fields COTCONF and COTFAIL in table RESOFC.
	ENF1LEVL	Y, N	ENABLE FIRST ONE-LEVEL. This subfield specifies if the activation level for the customer group is one-level. The process does not depend on the setting of field ACTLEVEL of the COT tuple in Table RESOFC. Enter Y to activate default one-level activation. Enter N to use the setting of field ACTLEVEL of the COT tuple.

Datafill example for table CUSTSTN

Sample datafill for table CUSTSTN appears in the following example

MAP example for table CUSTSTN

TABLE: CUSTSTN								
CUSTNAME	OPTNAME					OPTION		
CUSTGRP	ACB	ACB	2	3	Y	ACBARRP	Y	
CUSTGRP	AR	AR	2	3	Y	ACBARRP	Y	ONELEVEL
CUSTGRP	COT	COT	Y	Y				

Tools for verifying translations

The REVXLVER (reverse translations verification) is a datafill verification utility like TRAVER (translations verification). This utility simulates reverse translations from a specified origination to a specified destination. The

CLASS on MDC Base (continued)

REVXLVER examines and displays translations data for reverse translations call processing. The REVXLER can display the reverse translations number that results.

Revers translations tables

Two data tables perform reverse DN translations. The first table, DNREGION, identifies groups of DNs belonging to the same region or community of interest. The second table, DNREVXLA, provides reverse translations algorithms based on the different areas table DNREGION defines. These two tables provide the capability to specify the method in which the system manipulates the destination digits. This manipulation is based on if the originator and the destination share a particular region.

Table CUSTNTWK must contain a tuple for each Subscriber Services and MDC customer group with lines using the ACB/AR and DDN features. The tuple in table CUSTNTWK identifies the reverse translator that the AR and DDN features use.

The tables that each REVXLVER subcommand refers to appear below in the descriptions of the individual subcommands.

REVXLVER subcommands

The REVXLVER tool divides into four subcommands:

AR

allows the user to analyze AR reverse translations.

ACB

allows the user to analyze ACB reverse translations.

DDN

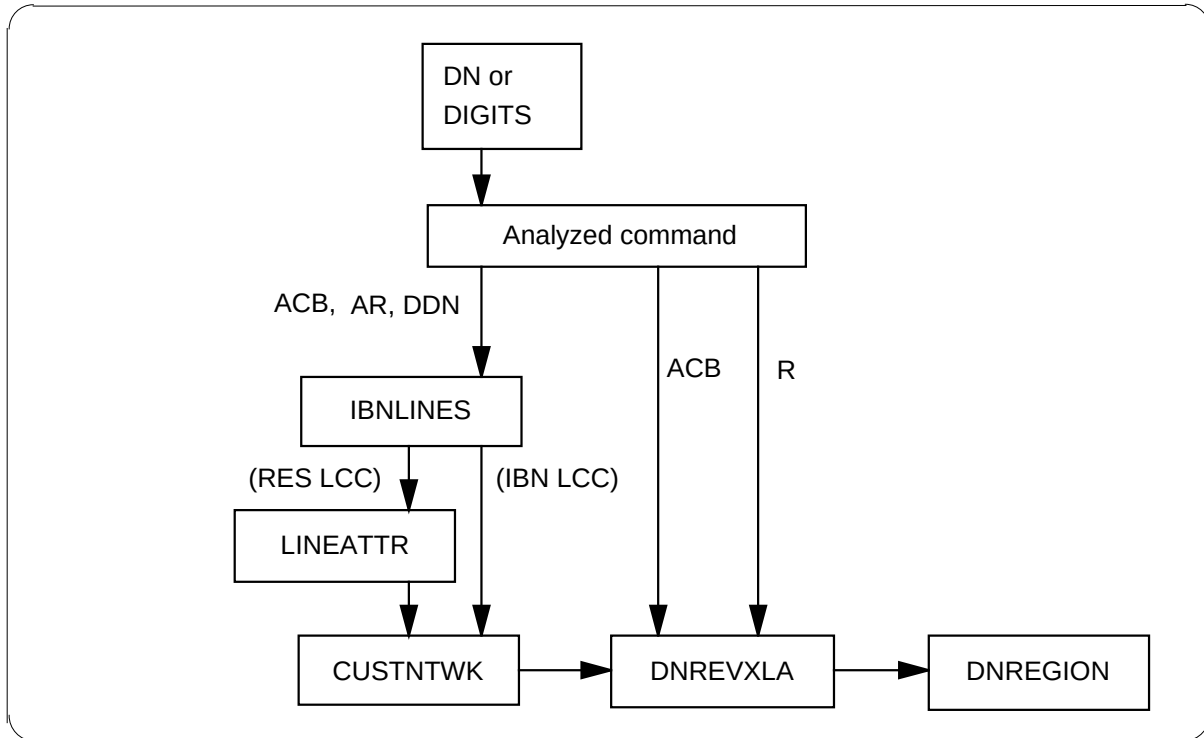
allows the user to analyze DDN reverse translations.

R (Region)

allows the user to trace datafill in Table DNREGION.

Tables used by REVXLVER subcommands

How the REVXLVER subcommands (AR, ACB, DDN, and R) access the tables that reverse translations processing uses appears in the following figure.

CLASS on MDC Base (continued)**REVXLVER output example for CLASS on MDC Base****REVXLVER parameters**

The following command syntax invokes the REVXLVER tool:

<RXLANAME>

where

SUBCOMMAND

is the REVXLVER subcommand the system invokes (ACB, AR, DDN, or R).

DN

is the directory number of the line that originates the call (for ACB, AR, and DDN, DN must be seven or ten digits).

DIGITS

must contain the digits that identify the destination (for AR and DDN, DIGITS must contain 10 digits; for ACB, DIGITS must contain 1 to 18 digits; for R, DIGITS consist of 1 to 11 digits.).

OPTION

is the type of tracing option, as follows:

CLASS on MDC Base (continued)

T (trace) uses parallel software to simulate the reverse translations part of a call. T(trace) displays in a sequence all table entries that the call references.

NT (no trace) displays the reverse translations output digits for the associated DN and digits specified in the command line.

Binvokes options T and NT.

NETNAME

is an optional parameter that identifies a correct network name. Network names appear in Table NETNAMES. The default value is PUBLIC. The NETNAME parameter is correct only in the AR and DDN subcommand syntax.

RXLNAME

is the name of a correct reverse translator name. The RXLANAME parameter is correct only in the R subcommand syntax.

REVLVER input examples

Examples of correct input strings appear in the following list:

REVLVER AR 8243000 8197251234 B PUBLIC

REVLVER ACB 6138231234 7235678 T

REVLVER DDN 8243000 8197251234 NT PRIVDDN

REVLVER R 6138243000 POTSAR

REVLVER output examples

Correct ranges for REVLVER output appear in the following list :

AR

The result must consist of 1 to 18 digits for the dialable number and 10 digits for the destination number.

ACB

The result must consist of 10 digits.

DDN

The result must consist of 1 to 24 digits.

R

There is no result.

The output from the AR subcommand can use both tracing options on an extension dialed call with a private network name. This output appears in the following example.

CLASS on MDC Base (continued)**REVXLVER AR example**

```

> REVXLVER AR 7224111 6137224012 B PRIVRXLA

TABLE IBNLINES
  HOST 01 0 00 01 DT STN IBN 7224111 PRIV 0 0 613
  (ACB) (AR) $
TABLE CUSTNTWK
  PRIV PRIVRXLA 6 (CLID OFFNET) (PRIVRXLA DEMOMDC 10)
  (PUBLIC DEMOPUB 10)
TABLE DNREVLXA
  DEMOMDC 613 613 (EXTN 5 N N)
TABLE DNREGION
  EXTN 613722 613722
DIGITS USED TO CALL 6137224012 FROM 7224111
24012
TABLE CUSTHEAD
  PRIV CXDK KDK (VACTRMT 0) (EXTNCOS 0) (ACCT 5) (OHQA
  OHQANNC) (FETXLA CUSTFEAT) (PLMXLA PXDK) (ERDT 7)
  AUTH PRIV N N) (SUPERCNF) (OCTXLA CUSTSHRP)
  (PRITCXLA MDCPRITC) PUBTCXLA RESTCXLA)
FIRST PASS:
TABLE DNREVLXA
  MDCPRITC 24 24 (DEFAULT 0 61372 N)
TABLE DNREGION
DEFAULT DIGIT MANIPULATION RESULT USED
SECOND PASS:
NETWORK PLAN DATAFILL NOT REQUIRED
DESTINATION DIGITS
6137224012

++ REVXLVER: SUCCESSFUL TRACE ++

```

The output from the ACB subcommand with both tracing options on a local call across different NPAs appears in the following example.

CLASS on MDC Base (continued)**REVXLVER ACB example**

```

>REVXLVER ACB 7224111 8235678 B

TABLE IBNLINES
  HOST 00 0 09 18 DT STN IBN 7224111 PRIV 0 0 613
    ( ACB) ( AR) ( DDN)$
TABLE CUSTHEAD
  PRIV CXDK KDK
TABLE DNREVXLA
  DN10DXLA 722 722 (R613T613 0 613 N)
                  (R613T819 0 819 N)

TABLE DNREGION
  R613T819 722 725
  R613T819 822 824
DESTINATION DIGITS
8198235678

++ REVXLVER: SUCCESSFUL TRACE ++

```

The output from the DDN subcommand with both tracing options appear in the following example.

REVXLVER DDN example

```

>REVXLVER DDN 7224111 6136216055 B

TABLE IBNLINES
  HOST 00 0 09 18 DT STN IBN 7224111 PRIV 0 0 613
    ( ACB) ( AR) ( DDN)$
TABLE CUSTNTWK
  PRIV PUBLIC 6 (CLID OFFNET) (PUBLIC POTSAR 10)
TABLE DNREVXLA
  POTSAR 613 613 (ARREG1 3 819 N)
TABLE DNREGION
  ARREG1 613621605 613621605
  ARREG1 61372241 61372241
DELIVERY DIGITS
8196216055

++ REVXLVER: SUCCESSFUL TRACE ++

```

The output from the R subcommand scanning table DNREGION appears in the following example.

CLASS on MDC Base (end)

REVXLVER R example

```
>REVXLVER R 613824 POTSAR
```

```
TABLE DNREGION
```

```
LOCAL_C 613823 613824
```

```
TOLL_613 613 613
```

```
++ REVXLVER: SUCCESSFUL TRACE ++
```

SERVORD

The CLASS on MDC Base does not use SERVORD. See the individual CLASS feature descriptions for example service orders to add CLASS options to lines.

Class on MVP Base

Ordering codes

Functional group ordering code: MDC00004

Functionality ordering code: does not apply

Release applicability

NA008 and later versions

Requirements

To operate, Class on MVP Base has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC Standard, MDC00003
- RES Service Enablers, RES00006
- MDC MBS Minimum, MDC00007

Network configuration

Common Channel Signaling No. 7 (CCS7) connectivity is a requirement for network, interoffice, configuration of CLASS on Meridian Business Sets (MBS) Phase I and II. The following feature packages are requirements for CCS7 connectivity:

- Base ISUP, ISP70001
- TEL CCS7 Base, TEL00008

Description

CLASS feature packages

The following feature packages are requirements to assign the individual CLASS features:

- RES Non-Display Services, RES00005
- RES Display Functionality and Privacy, RES00003

The CLASS on MVP Base feature makes the following Custom Local Area Signaling Services (CLASS) features available in the Multiline Variety Package (MVP) environment with a line class code (LCC) of IBN:

- Automatic Call Back (ACB)
- Automatic Recall (AR)
- Customer Originated Trace (COT)

Class on MVP Base (continued)

- Calling Number Delivery (CND)
- Dialable Number Delivery (DDN)
- Calling Number Delivery Blocking (CNDB)
- Calling Name Delivery Blocking (CNAB)

The MVP environment is a set of business lines with a public network dial plan and subset of Meridian Digital Centrex (MDC) subscriber features.

You only can implement CLASS on MVP Base on lines with 500/2500 sets.

Note 1: The 500/2500 sets require an adjunct set with display abilities to receive CLASS calling party display information.

Note 2: The display features CND and DDN are not compatible and cannot be on the same line.

Operation

This section describes how the CLASS features that CLASS on MVP Base provides, operate in the MVP environment, LCC of IBN. The CLASS features are available by CLASS on MVP Base. Refer to the individual CLASS feature descriptions for information on how CLASS features operate in the Subscriber Services RES environment, LCC of RES.

MVP capabilities

The CLASS on MVP Base feature interacts with the following MVP abilities:

- a plain old telephone service (POTS)-like dial plan you achieve through a set of recommended datafill to implement assumed 9 dialing. This condition allows the MVP subscriber to dial out without use of a prefix digit. The subscriber can dial NXX-XXXX for local calls, 1 + NXX-XXXX for toll calls in the numbering plan area (NPA), and 1 + NPA-NXX-XXXX for other toll calls.
- call selection. Call selection limits the numbers that some MVP subscribers can dial.
- outward wide area telephone service (OUTWATS). Dial an access code to access OUTWATS.
- inward wide area telephone service (INWATS). The INWATS allows calls to transfer between MVP lines by dialing Group Intercom (GIC) access codes.

Class on MVP Base (continued)

The following features form the MVP environment:

- Automatic Line (AUL)
- Call Hold (CHD)
- Call Waiting (CWT)
- Call Waiting Intragroup (CWI)
- Cancel Call Waiting (CCW)
- Group Intercom (GIC)
- Call Forwarding Universal (CFU)
- Call Forwarding Busy (CFB)
- Call Forwarding Don't Answer (CFDA)
- Call Pickup (CPU)
- Speed Calling Short List (SC1)
- Speed Calling Long List (SC2, SC3)
- Three-Way Calling (3WC)
- Call Transfer (CXR)

Note: See the description of feature BC0954, MVP Dial Plan, in this document for more information on the MVP dialing plan.

Translations table flow

See the individual CLASS features for translations data flow for each feature.

Class on MVP Base (continued)

Limits

The following limits apply to CLASS on MVP Base.

- ACB and AR are not compatible with the following line options:
 - AUL
 - AVT
 - BNN
 - CCSA
 - DOR
 - DTM
 - FIG
 - LDTPSAP
 - PCWT
 - PREMTBL
 - RAG
 - 3WCPUB
- COT is not compatible with the following line options:
 - AUL
 - AVT
 - CCSA
 - DOR
 - DTM
 - PCWT
 - PREMTBL
 - 3WCPUB
- CND is not compatible with the following line options:
 - AVT
 - CCSA
 - DDN
 - DTM
 - LDTPSAP

Class on MVP Base (continued)

- PREMTBL
- 3WCPUB
- DDN is not compatible with the following line options:
 - AVT
 - CCSA
 - CND
 - DTM
 - LDTPSAP
 - PREMTBL
 - 3WCPUB
- CNDB is not compatible with the following line options:
 - ACD
 - AUL
 - AVT
 - CCSA
 - CFGD
 - DOR
 - LDTPSAP
 - PREMTBL
 - SMDI
 - 3WCPUB
 - UCD
 - UCDS
- CNAB is not compatible with the following line options:
 - ACD
 - AUL
 - AVT
 - CFGD
 - DOR
 - LDTPSAP
 - PREMTBL

Class on MVP Base (continued)

- SMDI
- 3WCPUB
- UCD
- UCDS
- Subscription usage sensitive pricing (SUSP) is not available for CNAB.

Interactions

The actions between Class on MVP Base and other functionalities appear in the following paragraphs.

The MVP features this section describes are compatible with CLASS features. Some interactions of CLASS features in the MVP environment appear in the individual CLASS feature descriptions in other chapters. Additional interactions by CLASS on MVP Base appear in this section.

Call Forwarding Busy

The ACB and AR cannot follow the path to the forward-to station of a busy station with CFB active. For example, station A uses ACB to call station B with CFB active, and station B is busy. In this condition, ACB does not forward to station C. Station A receives recall ringing when station B becomes idle.

Call Forwarding Don't Answer

A station with CFDA does not affect the ACB/AR activation from another station. For example, station A uses ACB to call station B with CFDA active, and station B is idle. In this condition, ACB attempts to setup the call. If station B does not answer, the call is setup to station C, the forward-to station. If station B is busy, station A receives recall ringing when station B becomes idle.

Call Forwarding Universal

The CFU is compatible with CLASS features. See the individual CLASS feature descriptions for specified feature interactions with CFU.

Call Hold

The CHD interacts with the CWT feature. If a line has CWT and CHD assigned, the subscriber can retrieve the call waiting part of the call. The subscriber must dial the CHD access code to retrieve this part. When the CHD feature applies the CWT tone, the system updates the incoming call memory (ICM) with calling party information. The retrieval of a held call does not update the ICM of the CHD subscriber.

Class on MVP Base (continued)

Call Transfer

When a CXR subscriber that receives a transferred call has AR active, the following event occurs. The system updates the ICM with calling party information of the transferring station. The system does not update the ICM with calling party information of the DN of the originating station.

Call Waiting

The system updates the ICM of the CWT subscriber with calling party information when the subscriber hears the call waiting tone. The CHD feature can be on the line or not on the line for this update. When the subscriber hears the call waiting tone, the system updates the ICM with calling party information. The feature, CHD or CWT, that provides the call waiting tone does not affect this condition.

Call Waiting Intragroup

The CWI requires the CWT feature on the line before you can add CWI. The CWI feature provides CWT to members within the customer group. The CWI feature does not affect the ICM of the subscriber.

Cancel Call Waiting

The CCW cancels the call waiting of a subscriber on an individual call base. A station with CCW active does not have the ICM updated with calling party information when on a call.

Call Pickup

When a CPU subscriber picks up a call, the system does not update the ICM.

Calls routed to treatment

The system only updates the outgoing call memory (OCM) if an outgoing call completes. If the system routes an outgoing call to treatment, the system does not update the OCM.

Distinctive ringing

Distinctive ringing causes the MVP subscriber to hear a different ring for GIC calls. Table CUSTSTN defines the types of calls to which you can apply distinctive ringing.

Distinctive call waiting tone

The distinctive call waiting tone can be available to MVP subscribers at the customer group level.

Class on MVP Base (continued)

Group Intercom

The ACB and AR are compatible with the GIC feature. The billing and distinctive ringing attributes associated with a GIC call are preserved over callbacks and recalls that follow.

When an ACB subscriber dials a GIC code to make an outgoing call, the system updates the OCM with the code dialed. The outgoing GIC indicator is set. The ACB can be in use to redial the GIC call.

When an AR subscriber receives an incoming GIC call, the ICM updates with the full ten-digit calling DN. An incoming GIC call is a call where the originator dials a GIC code to make the call. The incoming GIC indicator is set. If you use AR to recall the originator, the recall is a GIC call.

The ICM contains the ten-digit public DN. The AR voiceback for GIC recalls voices the stored public DN, not the GIC member number.

If the ACB/AR activation determines that the GIC call is interoffice, the ACB/AR request receives long-term denial treatment. The ACB/AR activation can determine that the originator or the terminator is not a member of the same GIC group. In this condition, the ACB/AR request receives long-term denial treatment.

The CND and DDN display the DN of the originating GIC member, not the GIC member number.

INWATS

An MVP subscriber can use GIC access codes to transfer an incoming 800 call to a GIC member in the MVP group. The system updates the ICM of the GIC member with calling party information of the MVP subscriber, not the originating station.

OUTWATS

The system updates the OCM with dialed digits when a subscriber uses an OUTWATS line. An exception occurs when you dial an access code. When the stored DN contains an asterisk (*) or octothorpe (#), an ACB attempt results in a long-term denial treatment.

Speed Calling

You can use the SC1, SC2, and SC3 to make an outgoing call. This call updates the OCM with the DN associated with the speed calling code. This DN does not associate with the code. See the CLASS feature descriptions for information on how CLASS features operate in the Subscriber Services RES environment (LCC of RES).

Class on MVP Base (continued)

Three-Way Calling

The 3WC is compatible with CLASS features. See the CLASS feature descriptions for specified feature interactions with 3WC.

Activation/deactivation by the end user

See the CLASS feature descriptions for activation and deactivation procedures for each feature.

Billing

See the CLASS feature descriptions for billing and SUSP information that applies to each feature.

Station Message Detail Recording

Class on MVP Base does not affect Station Message Detail Recording.

Datafilling office parameters

Class on MVP Base does not affect office parameters. See the CLASS feature descriptions for information on how to enter office parameters for each feature.

Datafill sequence

See the CLASS feature descriptions for the datafill sequence and procedures of each feature.

Tools for verifying translations

The CLASS on MVP Base does not affect tools for verifying translations. See the CLASS feature descriptions for examples of the output from the translations verification (TRAVER) command. Use this command to verify translations,dd

SERVORD

The CLASS on MVP Base does not introduce changes to service orders. The following options are correct for an LCC of IBN:

- AR
- ACB
- COT
- CND
- DDN
- CNDB
- CNAB

Class on MVP Base (end)

SERVORD example for implementing Class on MVP Base

See the individual CLASS feature descriptions for example service orders to add CLASS options to lines.

COT Enhancement

Ordering codes

Functional group ordering code: MDC00004

Functionality ordering code: MDC00063

Release applicability

NA010 and up

COT Enhancement was introduced in NA010.

Prerequisites

This document includes all the data table information for this functionality. Complete implementation of this functionality can require software or hardware that is not described in this document.

Description

The Customer-originated Trace (COT) Feature Key Access is an enhancement of the Custom Local Area Signaling Services (CLASS) option COT. The COT feature allows a subscriber to activate a trace of the last incoming call to the business set. The DMS-100 log subsystem generates a report as a result of the trace. The report provides the calling party's directory number (DN), the DN suppression status, and the time. The report also indicates if the call is from outside the area. The report is available to operating company personnel. The COT feature eliminates the cost of tracing malicious calls.

The current COT feature is available to the Meridian business set (MBS) and integrated services digital network (ISDN) set. The subscriber dials the feature access code after termination of an incoming malicious call. The current method assumes one party is on the line.

The Customer-originated Trace (COT) Feature Key Access provides the following functionality:

- The subscriber activates the COT option by feature key on the MBS.
- The agent activates the COT option by feature key on the MBS Automatic Call Distribution (ACD).

Operation

Operating company personnel assign the COT option to a key on the MBS through the Service Order System (SERVORD). The COT feature is a subset feature. The SERVORD prompt keylist associates COT with the individual DNs on the MBS. The subscriber activates COT by selection of the feature key. The subscriber activates COT with an access code if assignment is made to key

COT Enhancement (continued)

1, primary directory number (PDN). The assignment of COT is made to one key for each MBS.

The ACD INCALLS key does not allow the query of an incoming call. The COT Feature Key Access is important to ACD because of the high rate of call termination. The ACD agent activates COT on the last terminating call. The last terminating call is in the active or talking state.

The called party activates the COT feature during an active call. The calling party is on hold. The called party hears the tone or announcement. An attempt to restore the connection between the called party and calling party follows the tone or announcement.

The calling party also can activate the COT feature during an active call. The called party is on hold. An attempt to restore the connection between the called party and the calling party follows the tone or announcement. The DMS-100 switch restores the call after the tone or announcement if the calling and called parties remain on the line.

Feature key management

The table feature key management shows some of the events from the MBS and the call processing results. The incoming call memory (ICM) is a buffer. The buffer stores the calling number of the malicious call. The DMS-100 switch overwrites the ICM during the tone or announcement. The information in the table assumes the COT feature is active for the DN requesting the query of ICM. Also, the COT requesting party is the called party.

Feature key management for COT Enhancement (Sheet 1 of 2)

Events from MBS	Call processing results
1. Idle> off hook> COT key or idle> COT key	The ICM identifies the last incoming call to the PDN of the set.
2. Idle> off hook> SDN> COT key or idle SDN> COT key	The ICM identifies the last incoming call to the SDN of the set.
3. Talking > COT key	The ICM identifies the DN of the active call. The ICM updates with the last call information after the alert tone or announcement.

COT Enhancement (continued)

Feature key management for COT Enhancement (Sheet 2 of 2)

Events from MBS	Call processing results
4. Talking > DN key > COT key > Release key > Talking DN key	After the subscriber presses the COT key, the ICM captures the DN key. This sequence restores the connection of the call on the talking DN as long as the calling party does not exit.
5. Talking.> DN key > COT key <time out on DN key> Talking DN key.	After the subscriber presses the COT key, the ICM captures the DN key. This sequence restores the connection of the call on the talking DN as long as the calling party does not exit.

In events 1 and 2, the subscriber presses the COT key on an idle MBS. The ICM captures the PDN of the MBS. There is not a COT tone or announcement. The keying sequence for case 1 and 2 produces the COT log only. An off-hook MBS in the active state on the PDN generates the COT tone or announcement and the COT log. The ICM captures the SDN when the subscriber presses the SDN key before the COT key on a malicious call.

If the operating company personnel assigns the COT option to the PDN, then COT does not support flash activation in the talking state. If there is a call on the PDN and another call terminates on the SDN, the ICM captures the SDN call. In this example, the subscriber presses the SDN key and the feature access code for COT.

The events 3, 4, and 5 assume the COT feature is on a key. For event 3, the called party initiates the ICM query on an active call on a DN by pressing the COT key. The called party returns to the active call that follows the tone or announcement. For events 4 and 5, the call is in the talking state on the PDN. A new call terminates on an SDN. The ICM captures the SDN when the subscriber presses the SDN key before the COT key. The call on the PDN is on hold when COT is active on the SDN. For the events 3, 4, and 5, the calling party exits at any time. For event 3, the called party exits following the COT tone or announcement.

In the example when the calling party initiates a query on ICM, the activation of COT places the called party on hold. The called party exits the call any time and the calling party exits the call following the COT tone or announcement. In the two party mode of COT activation the called party and the calling party reconnect. The calling and called parties reconnect after the tone or announcement for the log 150 or log 151.

COT Enhancement (continued)

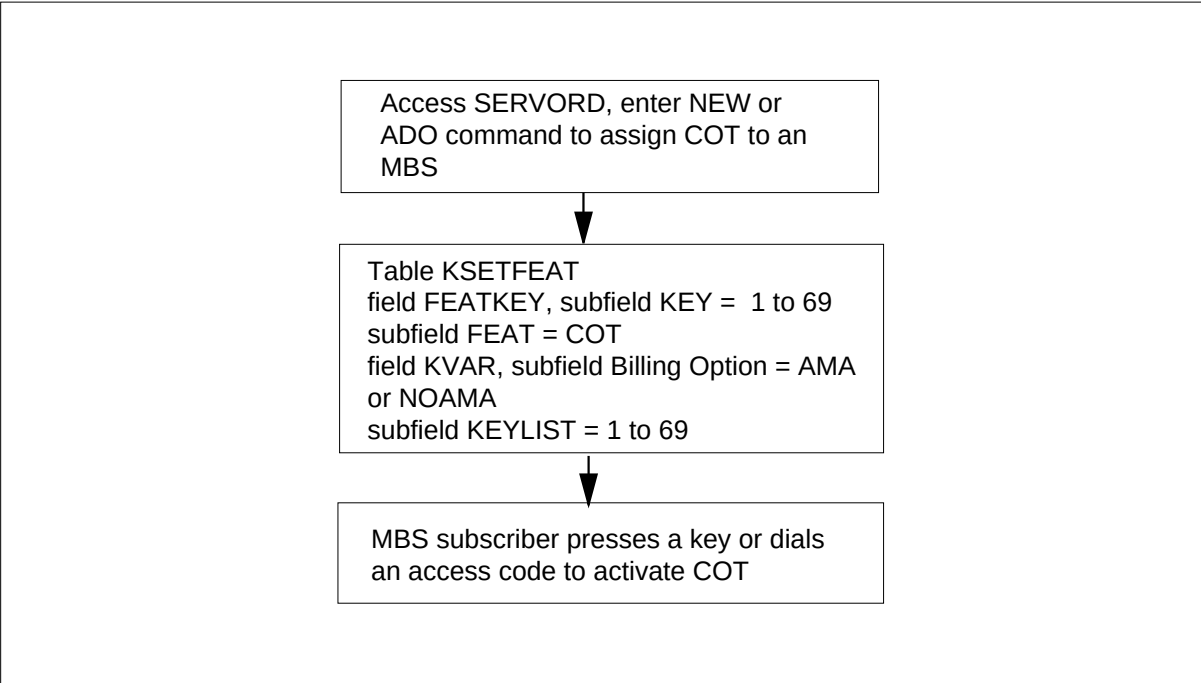
Lamp status

The feature lamp for the COT key displays after selection of the key if COT is valid for the DN. The lamp remains on until the COT tone or announcement is complete. There is no feature lamp for the COT activation by access code.

Translations table flow

The COT Enhancement translation process is shown in the flowchart that follows.

Table flow for COT Enhancement



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

Datafill example for COT Enhancement

Datafill table	Example data
KSETFEAT (Note)	HOST 00 0 06 15 4 COT COT NOAMA \$
Note: This table is datafilled through SERVORD; therefore, no datafill procedure or example is provided. Refer to "SERVORD" for an example of using SERVORD to datafill this table.	

COT Enhancement (continued)

Limitations and restrictions

The following limitations and restrictions apply to COT Enhancement:

- Assign the COT option to one key on each business set.
- Assignment of COT to the PDN excludes the assignment of COT to a feature key.
- A line class code (LCC) of zero minus deny (ZMD) or zero minus zero plus allowed (ZMZPA) can have the feature COT. The field RES_AS_POTS is set to Y for the office parameter RES_SO_SIMPLIFICATION and feature NC0485 is present.
- CLASS features cannot be assigned to MADN groups with multiple call arrangement (MCA).
- The COT feature is not compatible with MADN CACH.
- The activation of COT on the PDN is by feature access code only.
- Assignment of COT to a feature key excludes the assignment of COT to the PDN.
- NI-2 terminals exclude activation of COT by feature key.
- The activation of COT by flash hook and dialing the feature access code during the talking state is a limitation.
- The activation of COT while the attendant console is active on a call is a restriction.
- The activation of other features during the COT tone or announcement is a limitation.
- The activation of COT while in the second leg of a conference call or three-way call (3WC) is a restriction.
- Operating company personnel assign the COT feature to the primary member of a single call arrangement (SCA) MADN group only. Secondary members can activate COT after SERVORD assigns the feature to the primary member. The feature key assignment of COT for the SCA primary MADN member allows the primary member to activate by key access. The primary member can activate COT during the talking or idle state. The secondary members activate COT by access code and only during the idle state.
- The COT activation excludes the tone or announcement when the ACD agent goes off-hook as an idle set.
- The idle set COT activation generates the COT log, but not the COT tone or announcement.

COT Enhancement (continued)

Interactions

The following paragraphs describe the interactions between COT Enhancement and other functionalities:

- The primary member of a SCA MADN is assigned the COT option through SERVORD. SERVORD automatically assigns the COT option to all secondary SCA MADN members following the addition of COT to the prime member.
- The multiple call arrangement (MCA) MADN is not compatible with COT.
- The MADN CACH feature is not compatible with the COT feature.
- The ICM captures the call waiting call when the COT feature is active. The COT requesting party listens to tone or announcement and the other party is on hold for this case.
- The ICM captures a call waiting (CWT) call if the COT feature is active while the subscriber is in the talking state. When the subscriber activates the COT feature the COT feature places the other party on hold. The requesting party hears the tone or announcement.
- The COT requesting party receives the tone or announcement following the update of the ICM and log. The requesting party receives only the tone or announcement if the subscriber presses the COT key the second time. The switch does not generate a log for the second selection of the COT key.
- The DMS-100 switch ignores selection of the COT key if the requesting party is on a conference or 3WC. The DMS-100 switch also ignores the selection of the COT key if the attendant console is active on the call. The DMS-100 switch allows the requesting party to activate other features following the COT tone or announcement only.

Activation/deactivation by the end user

The COT Enhancement allows the subscriber of an MBS to activate COT by a feature key access method. Operating company personnel assign COT to the MBS by the SERVORD utility. The table KSETFEAT stores the information of the key assignment for COT.

COT Enhancement (continued)

Activation/deactivation of COT Enhancement by the end user

At your telephone

1. To activate the COT feature press the COT key on the MBS.

Response:

The DMS-100 switch places the subscriber on hold. The subscriber hears a tone or announcement when the trace of the call completes.

2. An attempt to restore the connection of the calling and called parties follows the tone or announcement.

Response:

The calling and called parties connect to continue the conversation as long as one of the parties does not exit the call.

Billing

The COT feature generates a call code of 330 and a structure code of 1030. The following figure is an example of an AMA record generated for call code 330. The call code 330 AMA record generates for any COT call.

Call code 330

```
HEX ID:AA STRUCT CODE: 0130C CALL TYPE: 330C SENSOR
TYPE:036C SENSOR ID: 0200200C REC OFC TYPE: 036C REC OFC
ID: 0200200C DATE:80401C SERV FEAT: 070C ORIG NPA: 613C
ORIG NO: 6211234C OVERSEAS IND:0C TERM NPA:00000C TERM
NUMBER:0000057C CONNECT TIME:1712598C ELAPSED TIME:
000000000C CLASS FUNCTION:00 0C
FEATURE STATUS:000C SCR N LIST SCF:000C SCR N LIST SCW:000C
SCR N LIST DRCW:000C
```

The following table provides information for structure code 1030.

Structure code 1030 (Sheet 1 of 2)

Structure code1030 fields (CLASS COT and CNDB features)	
<i>Information</i>	<i>Field number</i>
Record descriptor word	000
Hexadecimal identifier	00
Structure code	0
Call type	1

COT Enhancement (continued)**Structure code 1030 (Sheet 2 of 2)**

Structure code1030 fields (CLASS COT and CNDB features)	
<i>Information</i>	<i>Field number</i>
Sensor type	2
Sensor identification	3
Recording office type	4
Recording office identification	5
Date	6
CLASS feature code	415
Activating NPA	13
Activating number	14
Far-end overseas indicator	15
Far-end NPA	16
Far-end number	17
Time	18
Elapsed time	19
Class function	330
Feature status	331
Screen list size for SCF	802
Screen list size for SCR	802
Screen list size for DRCW	802

Station Message Detail Recording

COT Enhancement does not affect Station Message Detail Recording.

COT Enhancement (continued)

Datafilling office parameters

The following table shows the office parameters used by COT Enhancement. For more information about office parameters, refer to *Office Parameters Reference Manual*.

Office parameters used by COT Enhancement

Table name	Parameter name	Explanation and action
OFCVAR	RES_SO_SIMPLIFICATION	This parameter allows a Residential Enhanced Service (RES) line to change to a plain old telephone service (POTS) line during service order.

Datafill sequence

COT Enhancements does not affect datafill sequence.

Datafill tables required for COT Enhancement

Table	Purpose of table
KSETFEAT	Business Set and Data-Unit Feature contains the line features for the business sets and data units (DU) listed in table KSETLINE. The table KSETFEAT also lists the Meridian digital telephone sets and DUs listed in table IVDINV.
Note: This table is datafilled through SERVORD; therefore, no datafill procedure is provided. Refer to "SERVORD" for an example of using SERVORD to datafill this table.	

Translation verification tools

COT Enhancement does not use translation verification tools.

SERVORD

COT Enhancement allows the key assignment of COT on the MBS through SERVORD. The COT feature is a subset feature. The SERVORD prompt keylist associates COT with the individual DNs on the MBS. The subscriber activates COT with an access code if assignment is made to key 1, the PDN. The assignment of COT is made to one key for each MBS.

COT Enhancement (continued)**SERVORD limitations and restrictions**

The following SERVORD limitations and restrictions apply to COT Enhancement:

- Assignment of option COT is on one key for each business set.
- If option COT is on the PDN, SERVORD excludes assignment of COT to a feature key.
- If option COT is on a feature key, SERVORD excludes the assignment of COT by the ADO (add option) command.

SERVORD prompts

The following table shows the SERVORD prompts used to add COT Enhancement to a or DN or line equipment number (LEN).

SERVORD prompts for COT Enhancement

Prompt	Valid input	Explanation
OPTKEY	1 to 69	Identifies the key on the business set for the option
OPTION	COT	Customer-originated Trace option
BILLING_OPTION	AMA or NO AMA	Specifies the billing option. The input of AMA (automatic message accounting) indicates billing is on a usage basis. The input of NOAMA (no automatic message accounting) indicates billing is on a subscription basis. The SUSP entry in table AMAOPTS determines the entry for this prompt.
KEYLIST	1 to 69, \$	Specifies key numbers of the DNs for the COT option on a multiline telephone set. The default (\$) indicates all DNs on the set have the feature.

SERVORD example for adding COT Enhancement

The following SERVORD example shows how SERVORD adds the COT Enhancement to DN 621-1000 with the ADO command. The operating company personnel assigns the COT feature to key 6. All the DNs on the set have the COT option because of the default value for the keylist prompt.

In the following example, the SUSP (subscription usage sensitive pricing) entry in table AMAOPTS is set to OFF. The feature's BILLING_OPTION prompt does not appear in the SERVORD example.

COT Enhancement (continued)

SERVORD example for COT Enhancement in prompt mode

```
> SERVORD
SO:
>ADO
SONUMBER:          NOW 98  5  5  AM
>
DN_OR_LEN
> 6211000
OPTKEY:
> 6
OPTION
> COT
KEYLIST:
> $
OPTKEY:
> $
COMMAND AS ENTERED:
ADO NOW 98 5 5 PM 6211000 (6 COT ($) $
ENTER Y TO CONFIRM, N TO REJECT, OR E TO EDIT
>Y
```

SERVORD example for COT Enhancement in no-prompt mode

```
>ADO $ 6211000 6 COT $ Y $
```

The following SERVORD example shows how the COT Enhancement is added to DN 721-1000 with the ADO SERVORD command. The SUSP entry in table AMAOPTS is set to ON, so the BILLING_OPTION prompt displays. The COT option is associated with the DN on key 1 only.

COT Enhancement (end)

SERVORD example for COT Enhancement in prompt mode

```
> SERVORD
SO:
>ADO
SONUMBER:          NOW 98  5  5  AM
>
DN_OR_LEN
> 7211000
OPTKEY:
> 5
OPTION
> COT
BILLING_OPTION
> AMA
KEYLIST:
> 1
OPTKEY:
> $
COMMAND AS ENTERED:
ADO NOW 5 5 PM 7211000 (5 COT (1)) $
ENTER Y TO CONFIRM, N TO REJECT, OR E TO EDIT
> Y
```

SERVORD example for COT Enhancement in no-prompt mode

```
>ADO $ 7211000 5 COT AMA 1 Y $
```

SLE on MBS/MADN

Ordering codes

Functional group ordering code: MDC00004

Functionality ordering code: does not apply

Release applicability

NA008 and later versions

Requirements

To operate, SLE on MBS/MADN has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC Standard, MDC00003
- RES Service Enablers, RES00006
- MDC MBS Minimum, MDC00007

Network configuration

The network (interoffice) configuration of Custom Local Area Signaling Services (CLASS) on Meridian business sets (MBS) Phase I and II requires Common Channel Signaling No. 7 (CCS7) connectivity. The following feature packages are requirements for CCS7 connectivity:

- Base ISUP, ISP70001
- TEL CCS7 Base, TEL00008

SLE feature packages

The assignment of individual SLE features requires feature package Residential Enhanced Services (RES) Non-Display Services, RES00005.

Description

The SLE on MBS/MADN feature provides the following CLASS Screening List Editing (SLE) features to subscribers on MBS. The feature provides SLE features to subscribers with Multiple Appearance Directory Number (MADN) group with 500/2500 sets or MBSs:

- Selective Call Forwarding (SCF)
- Selective Call Rejection (SCRJ)
- Selective Call Acceptance (SCA)
- Distinctive Ringing/Call Waiting (DRCW)

SLE on MBS/MADN (continued)

Note: The CLASS SLE features are phase II features.

The SLE on MBS/MADN provides the following enhancements:

- assignment of options on MBSs and 500/2500 sets through the service order system (SERVORD)
- DRCW tones on MBSs
- use of SLE by subscribers that are part of a single call arrangement or extension bridging MADN group

SLE feature descriptions

The following is a description of the SLE features.

- SCF allows a subscriber to define a special list of directory numbers (DN) and a destination DN. The system forwards incoming calls from the list DNs to the destination DN.
- SCRJ allows a subscriber to define a list of DNs. This condition prevents incoming calls from the DNs from terminating to the subscriber.
- SCA allows a subscriber to define a list of DNs. This condition allows incoming calls from only the DNs to terminate to the subscriber.
- DRCW allows the subscriber to define a list of DNs. This condition identifies incoming calls from the DNs by alerting at the subscriber set.

The operation of the SLE features for MBS/MADN in the MBS environment and MADN environment appears in the following section. The MBS environment is LCC of PSET. The MADN environment is LCC of IBN. See the CLASS SLE feature descriptions for information on the operation of SLE features in Subscriber Services RES environment. The RES environment is LCC of RES.

Meridian business sets

Each MBS has an SLE feature assigned for each DN. Each assigned SLE feature has an associated screening list. When an incoming call arrives for a specified DN key, the system examines the SLE lists associated with that DN key.

To perform screening list editing for a SLE feature on an MBS, the subscriber selects the DN key with the SLE feature. The subscriber enters the access code for the SLE feature. The subscriber can manipulate the SLE list for a specified SLE feature assigned to the DN key. For example, if the DN key 2 of an MBS has SCA assigned, the subscriber presses DN key 2. The subscriber enters the SCA access code to start a list editing session for the screening list.

SLE on MBS/MADN (continued)

SCF SERVORD operation

You enter the following SERVORD prompts in table KSETFEAT for an MBS:

- NUMCALLS (number of simultaneous calls)
- RINGREM (ring reminder)
- SCRNCNCL (screening class)

The fields are not different for SCF on different keys of the same key set. If an MBS key has SCF assigned, additional assignment of SCF to another key changes the fields. The new values determine the field changes. The values are the values you enter in response to the SERVORD command prompts for the same fields.

In addition, the prompt SCRNCNCL is not correct for key sets. When you add SCF to a key set through SERVORD, this action disables the SCRNCNCL prompt. A prompt does not appear. In this condition, the system assigns the default value of NSCR (no screening class) to the line.

The addition of SCF to an MBS causes the system to assign Call Forwarding Simultaneous/Screen (CFS) to the line.

DRCW operation

The call waiting tone for an MBS is different from the call waiting tone of 500/2500 sets. A current tone provides different call waiting as the DRCW feature requires. A tone pattern of one short tone burst notifies the subscriber of call waiting.

A subscriber can be busy on a call when another incoming call arrives on a different DN key. When this condition occurs, the MBS provides one long tone burst. The MBS does not provide ringing to alert the user.

The two precedence call waiting (PCWT) tones provide DRCW call waiting tones. This condition occurs because SLE is not compatible with PCWT. The different tone when a call arrives on a different DN key is a long-short-short. The tone is 300 ms-100 ms-100 ms. The different tone when a call arrives on the same DN key is short-short-short. The short tone is 100 ms.

The ringing pattern for MBSs is like the tone of 500/2500 sets. The ring pattern is long-short-long. To receive the correct different ring pattern for MBSs, enter the line concentrating module (LCM) and remote line concentrating module (RLCM) for CODED ringing. A C in the ringing field of Table LCMINV indicates this condition.

SLE on MBS/MADN (continued)

MADN groups

Only the primary MADN group member can edit SLE screening lists. The primary member manipulates a screening list by dialing the access code for a specified SLE feature. The screening list applies to the complete MADN group. For example, a MADN primary member can have the SCRJ feature. When this condition applies, the system screens all incoming calls to the whole group. The system uses the screening list that the primary member creates. If a match occurs, the system rejects the incoming call. The call does not terminate on *any* member of the MADN group.

Translations table flow

See the SLE feature descriptions for translations data flow information for each feature.

Limits

The following limits apply to SLE on MBS/MADN:

- You can activate the SLE features for MBSs by feature access codes only. You cannot assign the features to feature keys or GIC keys.
- You cannot assign the SLE features to members of MADN multiple call arrangement groups.
- DRCW is not compatible with the following line options:
 - AVT
 - BNN
 - CCSA
 - CFMDN
 - DIN
 - DTM
 - EHLN
 - LDTPSAP
 - PCWT
 - PREMTBL
 - PRL
 - 3WCPUB
- SCA is not compatible with the following line options:
 - AVT
 - BNN

SLE on MBS/MADN (continued)

- CCSA
- CFMDN
- DIN
- DTM
- EHL D
- LDTPSAP
- PCWT
- PREMTBL
- PRL
- 3WCPUB
- SCRJ is not compatible with the following line options:
 - AVT
 - BNN
 - CCSA
 - CFMDN
 - DIN
 - DTM
 - EHL D
 - LDTPSAP
 - PCWT
 - PREMTBL

SLE on MBS/MADN (continued)

- PRL
- 3WCPUB
- SCF is not compatible with the following line options:
 - ATC
 - AVT
 - BNN
 - CCSA
 - CFMDN
 - CSDO
 - DIN
 - DTM
 - EHLD
 - FNT
 - HOT
 - LDTPSAP
 - ONI
 - PCWT
 - PLP
 - PREMTBL
 - PRL
 - TRMBOPT
 - 3WCPUB

Interactions

A description of how the SLE features interacts with the MADN abilities appears in the following paragraphs.

MADN ringing

A MADN group member can ring or not ring for calls terminating on the MADN group. The MADN single call arrangement groups can have the

SLE on MBS/MADN (continued)

MADN Ring Forward (MRF) feature. This feature provides one of four different ring options. The four ring options are as follows:

- always ring
- never ring—This option is not available for a member with 500/2500 set service if the member is the primary MADN group member.
- abbreviated ring—The system rings the MADN group member until the MRF feature activates, manually or automatically.
- delayed ring—The system rings the MADN group member when the MRF feature becomes active for the call terminating on the group.

The DRCW feature provides different ringing to all MADN group members that receive ringing. This condition does not affect the MADN ring forward feature functionality.

SCF ring splash

When the SCF feature provides a ring splash, the ring splash is only for the primary member of the MADN group.

Activation/deactivation by the end user

The activation/deactivation steps to perform screening list editing for an SLE feature on an MBS appear in the following table. The SLE features are SCA, SCF, SCRJ, DRCW.

Activation/deactivation of SLE on MBS/MADN by the end user

At your telephone

- 1** Select the DN key with the assigned SLE feature.
Response:
There is no response
- 2** Enter the access code for the SLE feature.
Response:
The audio SLE announcements prompt the subscriber through a screening list editing session. Refer to "Activation/deactivation by the end user" in "Screening List Editing (SLE)" for activation and deactivation procedures for each SLE feature
- 3** Manipulate the screening list for the SLE feature assigned to the DN key.

Billing

See the SLE feature descriptions for billing and subscription usage sensitive pricing (SUSP) information that applies to each feature.

SLE on MBS/MADN (continued)**Station Message Detail Recording**

The SLE on MBS/MADN does not affect Station Message Detail Recording.

Datafilling office parameters

The SLE on MBS/MADN does not affect office parameters. Refer to "Datafilling office parameters" in "Screening List Editing (SLE)" for information on datafilling office parameters for SLE.

Datafill sequence

The tables that require datafill to implement SLE on MBS/MADN appear in the following table. The tables appear in the correct entry order.

Datafill requirements for SLE on MBS/MADN

Table	Purpose of table
RESFEAT	Residential Line Feature. This table contains information that applies to features on RES lines.
SLELIST	Screening List Editing List. This table contains information that applies to each entry on each SLE list in an office.
IBNFEAT (note)	IBN Line Feature. This table lists line features for the IBN lines table IBNLINES lists.
KSETFEAT (note)	Business Set and Data-Unit Feature. This table lists the line features for the business sets and data units (DU) table KSETLINE lists. This table lists the Meridian digital telephone sets and DUs table IVDINV lists.
Note: You enter data in this table through SERVORD. A datafill procedure or example is not available. Refer to "SERVORD" for an example of how to use SERVORD to enter data in this table.	

Datafilling table RESFEAT

Table RESFEAT (Residential Line Feature) contains information that applies to features on RES lines. You can assign many SLE features to a DN on an MBS. You can assign the same SLE feature to more than one DN. For example, you can assign DN keys 1 and 3, DRCW. Each DN has a different screening list.

The SCRJ, SCA, SCF, and DRCW appear as correct features in Table RESFEAT.

SLE on MBS/MADN (continued)

Datafill for SLE on MBS/MADN for table RESFEAT appears in the following table. The fields that directly to SLE on MBS/MADN appear in this table. See the data schema section of this document for a description of the other fields.

**CAUTION****Possible loss of service**

Use SERVORD to add and delete tuples in Table RESFEAT. Do not use the table editor to add and delete tuples. Use of the table editor to enter data in this table can result in features on the line that are not compatible. The table datafill appears for information only.

Datafilling table RESFEAT (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LINE		LEN	LINE EQUIPMENT NUMBER. This field specifies a line equipment number (LEN).
KEY		1 to 69	PHYSICAL KEY. This field specifies a key for a DN appearance on an MBS. Enter a value from 1 to 69. A 500/2500 set has a KEY of 0.
FEAT		SCA, SCRJ, SCF, or DRCW	FEATURE. This field specifies the SLE feature for the MBS. The SLE features are SCA, SCRJ, SCF, or DRCW. Note: If FEAT contains SCF, the system prompts for the FDN subfield.
VAR			VARIABLE. This field contains the subfields DF, AMA, and STATUS. These subfields appear as follows.
	DF	SCA, SCRJ, SCF, or DRCW	DATA FEATURE. This subfield specifies the SLE data feature. Enter the same feature that field FEAT specifies.

SLE on MBS/MADN (continued)**Datafilling table RESFEAT (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	AMA	AMA, NOAMA	AMA. This subfield indicates the presence of AMA billing. Enter AMA if this feature requires an AMA record. Set option SUSP in Table AMAOPTS to ON to generate an AMA record. Enter NOAMA if an AMA record is not a requirement.
	STATUS	ACT, INACT	STATUS. This subfield specifies if the feature is active on the line. Enter ACT if the feature is active. Enter INACT if the feature is not active. For the feature to work, enable the feature for the office in Table RESOFC. If the status is ACT, a minimum of one entry must be present in Table RESFEAT for the line.
	FDN	1 to 24 digits	FORWARD-TO DN. This subfield specifies the DN to which calls forward when SCF is active. Enter a DN from 1 to 24 digits in length.

Datafill example for table RESFEAT

Sample datafill for table RESFEAT appears in the following example.

MAP example for table RESFEAT

TABLE: RESFEAT									
LINE				KEY	FEAT			VAR	
HOST	0	0	11	8	1	SCRJ		SCRJ NOAMA INACT	

Datafilling table SLELIST

Table SLELIST (Screening List Editing List) contains information that applies to each entry on each SLE list in an office.

SLE on MBS/MADN (continued)

Datafill for SLE on MBS/MADN for table SLELIST appears in the following table. The fields that apply to SLE on MBS/MADN appear in this table. See the data schema section of this document for a description of the other fields.

**CAUTION****Possible loss of service**

Use SERVORD to add and delete tuples in Table RESFEAT. Do not use the table editor to add and delete tuples. Use of the table editor to enter data in this table can result in features on the line that are not compatible. The table datafill appears for information only.

Datafilling table SLELIST (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
LINE		LEN	LINE EQUIPMENT NUMBER. This field specifies a LEN.
KEY		1 to 69	PHYSICAL KEY. This field specifies a physical key for a DN appearance on an MBS. Enter a value from 1 to 69. A 500/2500 set has a KEY of 0.
FEAT		SCA, SCRJ, SCF, or DRCW	FEATURE. This field specifies the SLE feature for the MBS. The SLE features are SCA, SCRJ, SCF, or DRCW.
ENTRYNO		0 to 8191	ENTRY NUMBER. This field specifies the position of the DN in the screening list. Enter a value from 0 to 8191.
NEW		Y, N	INSERT NEW TUPLES. This field indicates that you can insert tuples in the list at the location specified. Enter Y to add tuples. For other conditions, enter N.
DN		ten-digit DN	DIRECTORY NUMBER. This field specifies the ten-digit DN to receive incoming call screening.
KIND		PUBLIC, PRIVATE	KIND OF DIRECTORY NUMBER. This field specifies if the DN is voiced back (PUBLIC) or not voiced back (PRIVATE) during SLE list review.

SLE on MBS/MADN (continued)**Datafilling table SLELIST (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
VBCOUNT		0 to 10	VOICEBACK COUNT. This field specifies the number of digits that voice back during SLE list review. When the entry in KIND is PRIVATE, you must enter 0 for the VBCOUNT. When the entry is PUBLIC, you cannot enter 0 for the VBCOUNT. Enter a value from 0 to 10.
EXTN		Y, N	EXTENSION. This field specifies if you add the DN through the extension command. Enter Y when you add the DN through the extension command. For other conditions, enter N.

Datafill example for table SLELIST

Sample datafill for the SLE on MBS/MADN feature in Table SLELIST appears in the following example. In the example, the SCF feature has two entries on key 1. The SCRJ feature has two entries on key 2.

MAP example for table SLELIST

KEY	FEAT	ENTRYNO	NEW	DN	KIND	VBCOUNT	EXTN
HOST 0 0 1 23							
1	SCF	0	Y	6136210000	N	7	N
HOST 0 0 1 23							
1	SCF	1	Y	6137224005	Y	0	N
HOST 0 0 1 23							
2	SCRJ	0	Y	5196220046	N	10	N
HOST 0 0 1 23							
2	SCRJ	1	Y	6137224005	Y	0	N

Tools for verifying translations

The TRAVER (translations verification) command output that appears during verification of SLE on MBS/MADN appears in the following example.

SLE on MBS/MADN (continued)

TRAVER output example for SLE on MBS/MADN

```
>TRAVER L 6212004 'B94' B
TABLE KSETLINE
  HOST 00 0 00 04 1 DN Y 6212004
IBNTST 0 0 613 (PRK)          (CFX) $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE NCOS
IBNTST 0 0 0 TST10 (XLAS CXT1 RXCFN
NDGT) (OHQ 0          TONE_OHQ)
(CBQ 0 1 Y 2) (EWRT) $
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA,
CUSTXLA, FEATXLA, VACTRMT, AND
DIGCOL
IBNTST NXLA CXT3 RXCFN 0 TST1
TABLE DIGCOL
TUPLE NOT FOUND
DEFAULT IS RPT
TABLE IBNXLA: XLANAME RXCFN
RXCFN 94 FEAT N N N SCRJ

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

SERVORD

The SERVORD can add the SCRJ, SCA, SCF, and DRCW features to DNs on an MBS. The SERVORD allows the addition of the SLE features to primary MADN group members. The SERVORD limits the assignment of these features to secondary MADN group members.

SERVORD limits

Only the primary MADN group member can perform screening list editing. The SLE list determines screening for calls terminating to the MADN group.

SERVORD prompts

When you add an SLE features to an MBS, the system adds the additional prompt of OPTKEY. The BILLING_OPTION, STATUS, and DNS are all current prompts. The system does not prompt for field OPTKEY when the LEN associates with a 500/2500 set.

SLE on MBS/MADN (continued)

The SERVORD prompt OPTKEY used to assign SLE on MBS/MADN to an MBS DN appears in the following table.

Note: In the example, the SUSP entry in Table AMAOPTS is OFF. The BILLING_OPTION prompt of the SLE feature does not appear.

SERVORD prompts for SLE on MBS/MADN

Prompt	Valid input	Explanation
OPTKEY	1 to 69, \$	Specifies the DN or MADN key
FDN	Valid forward-to DN	Specifies the forward-to remote DN to which the system forwards calls.
NUMCALLS	1 to 1024	Sets the maximum number of simultaneous SCF calls that can occur through the base station.
RINGREM	NORING, RING, NA	Specifies if the ring splash is on or off. If RINGREM contains RING, the system delivers a ring splash to the SCF base station. This action occurs when the system forwards a call through. If RINGREM contains NORING, the system does not deliver a ring splash. The value NA indicates that the system uses the customer group ring splash value, option CFXFEAT in Table CUSTST. This option is available when the OPTION prompt contains SCF. The value of field RINGREM can override the value the customer group level specifies. The customer group level is option CFXFEAT in Table CUSTSTN. Field RINGREM can override the customer group level when the value in field RINGREM is not NA.

SERVORD example for adding SLE on MBS/MADN

A description of how you add the SLE feature SCF to DN 7227001 with the ADO command appears in the following example. In the example, the forward-to DN is 6210424, NUMCALLS contains 2. The RINGREM contains RING.

SLE on MBS/MADN (continued)

SERVORD example for SLE on MBS/MADN in prompt mode

```
> SERVORD
S0:
> ADO
SONUMBER: NOW 89 06 12 PM
>
DN_OR_LEN:
> 7227001
OPTKEY:
> 1
OPTION:
> SCF
STATUS:
> INACT
DNS:
> $
FDN:
> 6210424
NUMCALLS:
> 2
RINGREM:
> RING
OPTKEY:
> $
COMMAND AS ENTERED: ADO NOW 89 06 12 PM 7227001 ( 1 SCF
INACT $ 6210424 2 RING) $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
>Y
```

SERVORD example for SLE on MBS/MADN in no-prompt mode

```
> ADO $ 7227001 1 SCF INACT $ 6210424 2 RING $ Y
```

You can add SLE feature SCRJ to DN keys 1, 2, and 3 on an MBS with the SERVORD command ADO. A description of how you perform this action appears in the following example.

Note: Each DN in the example has a different screening list.

SLE on MBS/MADN (continued)**SERVORD example for SLE on MBS/MADN in prompt mode**

```

>SERVORD
S0:
>ADO
SONUMBER: NOW 89 06 12 PM
>
DN_OR_LEN:
> 0 0 11 08
OPTKEY:
> 1
OPTION
> SCRJ
STATUS:
>NACT
DNS:
>$
OPTKEY:
>2
OPTION:
>SCRJ
STATUS:
>NACT
DNS:
>$
OPTKEY:
>3
OPTION:
>SCRJ
STATUS:
>INACT
DNS:
>$
OPTKEY:
>$
COMMAND AS ENTERED:ADO NOW 89 06 12 PM $ 7227001 (1 SCRJ
INACT $) (2 SCRJ INACT $) (3 SCRJ INACT $) $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT

```

SERVORD example for SLE on MBS/MADN in no-prompt mode

```

>ADO $ 7227001 1 SCRJ INACT $ 2 SCRJ INACT $ 3 SCRJ INACT $ $ Y

```

SLE on MBS/MADN (continued)

SERVORD example for SLE on MBS/MADN in prompt mode

```
STATUS:  
>INACT  
DNS:  
>$  
OPTKEY:  
>$  
COMMAND AS ENTERED:ADO NOW 89 06 12 PM $ 7227001 (1 SCRJ  
INACT $) (2 SCRJ INACT $) (3 SCRJ INACT $) $  
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT  
>Y
```

SERVORD example for SLE on MBS/MADN in no-prompt mode

```
>ADO $ 7227001 1 SCRJ INACT $ 2 SCRJ INACT $ 3 SCRJ INACT $ $ Y
```

You can add the DRCW and SCRJ to the primary member of a MADN group on key 1 of an MBS. A description of how you perform this action appears in the following example.

SLE on MBS/MADN (end)**SERVORD example for SLE on MBS/MADN in prompt mode**

```

> SERVORD
S0:
> ADO
SONUMBER: NOW 89 06 12 PM
>
DN_OR_LEN:
LEN:
> 7224023
LEN:
>HOST 00 0 10 01
OPTKEY:
> 1
OPTION:
> DRCW
STATUS:
> INACT
DNS:
> $
OPTKEY:
> 1
OPTION:
> SCRJ
STATUS:
> INACT
DNS:
> $
OPTKEY:
> $
COMMAND AS ENTERED:
ADO NOW 89 06 12 PM 7224023 HOST 00 0 10 01
( 1 DRCW INACT $ ) ( 1 SCRJ INACT $ ) $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
> Y

```

SERVORD example for SLE on MBS/MADN in no-prompt mode

```

>ADO $ 7224023 HOST 00 0 10 01 1 DRCW INACT $ 1 SCRJ INACT $ $ Y

```

SLE on MDC

Ordering codes

Functional group ordering code: MDC00004

Functionality ordering code: does not apply

Release applicability

NA013 and later versions

Requirements

To operate, the SLE on MDC has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC Standard, MDC00003
- RES Service Enablers, RES00006
- DTP Datapath, DTP00001

Network configuration

The network (interoffice) configuration of CLASS on MBS Phase I and II requires Common Channel Signaling No. 7 (CCS7) connectivity. The CCS7 connectivity requires the following feature packages:

- Base ISUP, ISP70001
- TEL CCS7 Base, TEL00008

Description

The SLE on MDC feature makes the following Custom Local Area Signaling Services (CLASS) Screening List Editing (SLE) features available. This feature makes the SLE available in the Meridian Digital Centrex (MDC) environment with a line class code (LCC) of IBN.

- Selective Call Forwarding (SCF)
- Selective Call Rejection (SCRJ)
- Selective Call Acceptance (SCA)
- Distinctive Ringing/Call Waiting (DRCW)

Note 1: The CLASS SLE features are phase II features.

Note 2: See "SLE on MBS/MADN" in this document for details on SLE features on Meridian business sets (MBS) sets.

SLE on MDC (continued)

The SLE on MDC is available for lines that have 500/2500 sets.

SLE feature packages

The SLE on MDC requires feature package RES Non Display Services RES00005 to assign the separate SLE features.

SLE feature descriptions

A description of the SLE features appears in the following list:

- The SCF allows a subscriber to define a special list of directory numbers (DN) and a destination DN. The system forwards incoming calls from DNs on the list to the destination DN.
- The SCRJ allows a subscriber to define a list of DNs. The feature does not allow incoming calls from DNs on the list to terminate to the subscriber.
- The SCA allows a subscriber to define a list of DNs. The feature can allow only the incoming calls from DNs on the list that can terminate to the subscriber.
- The DRCW allows the subscriber to define a list of DNs. The feature identifies incoming calls from DNs on the list with distinctive alerting at the subscriber set.

This section describes how the SLE features on MDC operate in the MDC environment (LCC of IBN). Information on SLE features operation in the Subscriber Services RES environment (LCC of RES) is available. See the separate CLASS SLE feature descriptions. Table 1 of "CLASS on MVP Base" lists the location of each feature in other subsections in this document.

The SLE feature operation in the RES environment uses the POTS dial plan. The structure of this plan includes DN formats of 7, 8, 10, or 11 digits. Examples of DN formats in the RES environment follow:

- NXX-XXXX (7 digits)
- 1 + NXX-XXXX (8 digits)
- NPA-NXX-XXXX (10 digits)
- 1 + NPA-NXX-XXXX (11 digits)

The DNs entered with the seven- and eight-digit formats return to the SLE subscriber as seven digits. The DNs entered that use the 10 and 11 digit formats return as 10 digits.

SLE on MDC (continued)

MDC dial plans

The MDC environment requires that SLE features interact with more complex dial plans than the plans in the RES environment. The SLE on MDC supports the following MDC dial plan attributes:

- extension numbers (two to six digits)
- electronic switched network (ESN) and private network DNs
- public DNs

The following enhancements to translations allow SLE features to operate in MDC:

- In table CUSTSTN, the SLE tuple includes datafill. This datafill specifies the minimum and maximum lengths of correct DNs on each customer group. This datafill specifies if DNs entered from incoming call memory (ICM) must have feedback counts that are not ten digits.
- The TCAP translations of entered DNs obtains ten-digit numbers for TCAP validation and for the storage of screening lists.
- The subscriber can enter MDC DNs during an SLE session. The MDC DN can include extension numbers.
- The system feeds back the DNs added to the screening list from the LCM. The system feeds the DNs back to the subscriber in the correct form.

The MDC subscribers can have more than one DN assigned when the subscribers belong to several different networks. One of these networks can be the public network. The SLE subscriber can receive the DNs over different networks. For example, the SLE can receive a private DN when calls arrive over the private network. The SLE can receive a public DN when calls arrive over the public network. When the system screens a caller that has multiple DNs, the system requires multiple screening list entries.

The network configurations that the SLE on MDC supports appear in the following list. This list includes limits that apply to network configurations.

- extension dialing in the customer group—DNs fail to validate. The system does not place the DNs on a screening list. These events occur when tables DNATTRS or DNGRPS substitute the DN for use in the public network.
- public network—The system uses a single-digit access code, like 9+.
- private network and ESN dialing—Enter the DNs received over ISDN user part (ISUP) trunks. Enter these DNs in the office. This configuration does not allow substitutes for a DN for the public network.

SLE on MDC (continued)

Customer group controls

Two subfields for the SLE tuple in table CUSTSTN allow changes to the SLE feature for each customer group. These two subfields are MINSLEDN (minimum SLE DN) and MAXSLEDN (maximum SLE DN). These subfields specify the lower and upper limits of correct DNs entered to add or delete DNs during a SLE session.

Valid DN length

To enter a DN, dial the digits followed by an octothorpe (#) or asterisk (*) to signal the end of the DN. When the DN is in the range that MINSLEDN and MAXSLEDN specify, the DN passes validation. The system enters the DN on the screening list. The entry of a DN with an incorrect length causes the following to occur:

- The subscriber receives an incorrect DN announcement when the subscriber enters the octothorpe.
- The system erases the entered digits when the subscriber enters an asterisk.

Note: The default values for residential customer groups are 7 for MINSLEDN and 11 for MAXSLEDN. These values cannot change unless feature package NTXJ78AA, CLASS on MDC Phase II, is in the office.

Flexible DN feedback

Field NON10ICM for the SLE tuple in table CUSTSTN allows the digits from the ICM to feed back a flexible digit count. This feedback occurs in place of the default of 10 digits. When this field is YES, the system performs reverse translations to determine the correct digit count.

TCAP translations

Each customer group requires TCAP translations to convert the DNs the subscriber enters during an SLE session. The translations convert the DNs to a ten-digit format for DN validation and storage in the list. Interoffice DN validation uses TCAP translations to query other switches.

The format of the DN that the subscriber enters in a SLE session depends on TCAP translations datafill. If datafill is available for the Automatic Call Back (ACB) feature, the subscriber can specify DNs in dialable format.

Note: See the section, "ACB TCAP translations in RES," in this document for details on TCAP translations.

SLE on MDC (continued)

Specifying MDC DNs during SLE sessions

The MDC DNs can have the following categories:

- extension numbers. The extension numbers can be two to six digits in length.
- public network access numbers. The numbers are P + 7, 8, 10, or 11 digits in length. The P is normally 9 digits in length.
- private network or ESN numbers. The numbers are in the form of: P + LOC + EXTN, where
 - P is the prefix used to access the private network
 - LOC is the location code
 - EXTN is the extension at the remote location

During an SLE session, the system feeds back the DN that the subscriber enters for list addition or list deletion. The system feeds back the DN used during list review. The number of digits that feed back for a specified DN depends on the number of digits entered. The following table lists the rules for determining the number of digits fed back. The digit count refers to the number of digits the subscriber enters when the subscriber specifies the DN to place on the SLE list.

Rules for determining number of digits fed back

Digit count	Number of digits fed back
Less than 7	Set to the number of input digits. The extension field is set.
7 or 8	Set to 7
More than 8	Set to 10

Extension numbers

The SLE on MDC introduces the TCAP translations required to obtain ten-digit DNs from extension numbers entered with the extension prefix. Screening lists can have extension numbers added.

Set field MINSLEDN in table CUSTSTN to the value of the length of the extensions. This setting allows the addition of extensions without the optional prefix. The system considers correct DNs entered between MINSLEDN and six digits in length as extensions. Subscribers can enter seven-digit DNs. The subscriber can have the system treat the digits as extensions can enter the DNs with the prefix.

SLE on MDC (continued)

Customer groups with two-digit extension dialing must use caution. Some SLE commands can be two digits in length. The system can interpret a two-digit extension as an SLE command. In this event, the two digit extension dialing can causes results the subscriber does not expect. Data entry can change the SLE commands so that the commands do not interfere with the extensions. The SLE subscribers can prefix the extension number with the extension prefix to remove any ambiguity.

Note: To avoid subscriber problems, the SLE menu codes in the SLE announcements must not change. The SLE announcements are on programmable read-only memory (PROM) cards that cannot change.

Public network access

A screening list can have public network DNs added with or without the public network access prefix. This addition can occur if the action does not conflict with the private dial plan. The system feeds back the public DNs to the subscriber. The system feeds back the DNs as seven digits or ten digits according to the rules that appear in table, "Rules for determining number of digits fed back".

Private networks and electronic switched networks

The TCAP translations datafill determines how SLE subscribers enter private network or ESN DNs during an SLE session. The ACB TCAP translations allows the subscribers enter DNs in dialable format. Additional TCAP datafill allows the subscriber to add private network and ESN DNs to a screening list. The subscriber can perform this addition without the private network access prefix.

Private network or ESN DNs feed back to the subscriber as seven digits or ten digits. This feed back is according to the rules that appear in table, "Rules for determining number of digits fed back". The format is: LOC + XXXX.

Note: Ambiguity between seven-digit private DNs and seven-digit local public DNs can occur when the system feeds back the digits.

DNs added from incoming call memory

The SLE subscriber can add the last incoming call to a screening list. The incoming call memory (ICM) contains calling party information. In the RES environment, the system feeds back the full ten-digit DN to the subscriber. In the MDC environment that uses extensions, the ICM contents determine reverse translations. These translations obtain a dialable DN. Each customer group can have reverse translations datafill for use with the Automatic Recall (AR) feature or the Dialable Number Delivery (DDN) feature.

SLE on MDC (continued)

The dialable DN determines the number of feedback digits using the rules that appear in Table 1. The digit count refers to the number of digits in the reverse translations.

Customer group dial plan example

The dial plan of an MDC customer group and the derived ACB TCAP numbers appear in the following table. The DN's returned to the SLE subscriber appear in the following table.

2 MDC customer group

Number dialed by subscriber	Derived TCAP number	Feedback DN
4XXX	613-765-4XXX	4XXX
6-222-XXXX	001-222-XXXX	222-XXXX
6-395-XXXX	001-395-XXXX	395-XXXX
9-NXX-XXXX	NPA-NXX-XXXX	NXX-XXXX
9-1-NPA-XXXX	NPA-NXX-XXXX	NXX-XXXX
9-NPA-NXX-XXXX	NPA-NXX-XXXX	NPA-NXX-XXXX
9-1-NPA-NXX-XXXX	NPA-NXX-XXXX	NPA-NXX-XXXX

The TCAP translations that the MDC customer group uses appears in the following example. When an SLE subscriber enters ESN DN's, the subscriber must enter the private network access prefix. In the example, the private network access prefix is 6. If an SLE subscriber wants to add ESN DN 222-1234 to the screening list, the subscriber must enter the DN as 6 + 222-1234. The TCAP translations convert the DN to 001-222-1234. The screening list stores the DN as 001-222-1234.

Note: Use caution when you enter data in TCAP translations. The correct operation of SLE features requires correct datafill.

Datafill example for table CUSTHEAD

Sample datafill for table CUSTHEAD appears in the following example.

SLE on MDC (continued)**MAP example for table CUSTHEAD**

CUSTNAME	CUSTXLA	DGCOLNM	IDIGCOL	OPTIONfields
CUSTGRPA	PRIXLA	NDGT	NIL	(PRITCXLA ATCAPXLA)
				(PUBTCXLA RESTCXLA) \$

Datafill example for table DNREWXLA

Sample datafill for table DNREWXLA appears in the following example.

MAP example for table DNREWXLA

RXLNAME	FROMDIGS	TODIGS	RESULTS			
ATCAP	4	4	(DEFAULT	0	613765	N) \$
ATCAP	6222	6222	(DEFAULT	4	001222	N) \$
ATCAP	6222	6222	(DEFAULT	4	001395	N) \$
ATCAP	9	9	(DEFAULT	1	N	N) \$


range of calling numbers

The additional datafill needed to allow the entry of ESN DN's without the private network access prefix appears in the following example. In the example, the SLE subscriber enters only 222-1234 to add this ESN DN to the screening list.

MAP example for table DNREXLA

RXLNAME	FROMDIGS	TODIGS	RESULTS			
ATCAP	222	222	(DEFAULT	3	001222	N) \$
ATCAP	395	395	(DEFAULT	3	001365	N) \$


range of calling numbers

Translations table flow

See the SLE feature descriptions for translations data flow information on each feature.

SLE on MDC (continued)

Limits

The following limits apply to SLE on MDC:

- The TCAP DN validation passes when the switch has the public network numbers entered.
- The TCAP DN validation fails when the switch does not have the public network numbers entered.
- The TCAP DN validation can pass when numbers used for TCAP queries differ from numbers transported over ISUP trunks. The system does not screen the correct DN entered in the screening list. The system does not transport that DN over ISUP trunks.
- The DRCW is not compatible with the following line options:
 - AVT
 - BNN
 - CCSA
 - CFMDN
 - DIN
 - DTM
 - EHLN
 - LDTPSAP
 - PCWT
 - PREMTBL
 - PRL
 - 3WCPUB
- The SCA is not compatible with the following line options:
 - AVT
 - BNN
 - CCSA
 - CFMDN
 - DIN
 - DTM
 - EHLN
 - LDTPSAP

SLE on MDC (continued)

- PCWT
- PREMTBL
- PRL
- 3WCPUB
- The SCRJ is not compatible with the following line options:
 - AVT
 - BNN
 - CCSA
 - CFMDN
 - DIN
 - DTM
 - EHL D
 - LDTPSAP
 - PCWT
 - PREMTBL

SLE on MDC (continued)

- PRL
- 3WCPUB
- The SCF is not compatible with the following line options:
 - ATC
 - AVT
 - BNN
 - CCSA
 - CFMDN
 - CSDO
 - DIN
 - DTM
 - EHLN
 - FNT
 - HOT
 - LDTPSAP
 - ONI
 - PCWT
 - PLP
 - PREMTBL
 - PRL
 - TRMBOPT
 - 3WCPUB

Interactions

Descriptions of the the interactions between SLE on MDC and other functionalities appear in the following paragraphs.

Automatic Call Distribution

The SLE features SCA, SCF, and SCRJ do not interact with Automatic Call Distribution (ACD). The ACD agents must not prevent callers that dial the ACD group number from terminating on a specified agent.

The DRCW interacts with ACD. If a caller calls an ACD agent with DRCW active, the call can terminate with distinctive ringing. The call terminates with distinctive ringing when the DN of the caller is on the DRCW screening list.

SLE on MDC (continued)

A DN not in the ACD group can reach the ACD agents with 500/2500 sets. The system screens calls terminating to ACD members using a separate DN.

Call forwarding

Call forwarding and the other types of call forwarding interact with the SLE features. The other types of call forwarding are Call Forwarding Fixed (CFF), Call Forwarding Intragroup (CFI) and Call Forwarding Universal (CFU). These call forwarding types interact with the SLE features in the following ways:

- The SCA has priority over call forwarding. If a caller calls a line with SCA and call forwarding active, the call can receive SCA treatment. The caller can receive SCA treatment if the DN of the caller is not on the SCA screening list. If the SCA screening list specifies the DN, the system forwards the call.
- The SCRJ has priority over call forwarding. If a caller calls a line with SCRJ and call forwarding active, the call can receive SCRJ treatment. The call receives SCRJ treatment if the DN of the caller is on the SCRJ screening list. If the DN is not on the SCRJ screening list, the system forwards the call.
- The SCF has priority over call forwarding. If a caller calls lines with SCF and CFU active, the system forwards the call to the CFU forward-to DN. The system forwards the call if the DN of the caller is not on the SCF screening list. If the DN is on the SCF screening list, the system forwards the call to the SCF forward-to DN.
- Call forwarding has priority over DRCW. If call forwarding is active, calls do not terminate on the subscriber line. The system does not screen the calls.

Call Forwarding Busy

Call Forwarding Busy (CFB) and the other types of CFB interact with the SLE features. The other CFB types are:

- Call Forwarding Busy External Deny (CBE)
- Call Forwarding Intragoup Deny (CBI)
- Call Forwarding Busy Universal (CBU)
- Internal/External Call Forwarding Busy (IECFB)

These CFB types interact with the SLE features in the following ways:

- The SCA has priority over CFB. If a caller calls a busy line with SCA and CFB active, the call receives SCA treatment. The call receives SCA

SLE on MDC (continued)

treatment if the SCA screening list does not contain the DN of the caller. If the DN is on the SCA screening list, the system forwards the call.

- The SCRJ has priority over CFB. If a caller calls a busy line with SCRJ and CFB active, the call receives SCRJ treatment. The call receives SCRJ treatment if the DN of the caller is on the SCRJ screening list. If the DN is not on the SCRJ screening list, the system forwards the call.
- The SCF has priority over CFB. If a caller calls busy lines with SCF and CFB active, the system forwards the call to CFB forward-to DN. The system forwards the call if the SCF screening list does not specify the DN. If the DN is on the SCF screening list, the system forwards call to the SCF forward-to DN.
- The DRCW has priority over CFB. If a caller calls a busy line with DRCW and CFB active, the first incoming call waits. The first incoming call waits if the subscriber has CWT. If the subscriber does not have CWT, the system forwards all incoming calls to the CFB forward-to DN.

If a caller calls a busy line with DRCW and CFB active, the call terminates with distinctive ringing. The call terminates with distinctive ringing if the subscriber does not have CWT and the DRCW screening list does not specify the DN of the caller. If CFB is active, calls do not terminate on the line of the subscriber. Screening does not occur.

Call Forwarding Don't Answer

Call Forwarding Don't Answer (CFDA) and the other types of CFDA interact with the SLE features. Other types of CFDA are:

- Call Forwarding Don't Answer External Deny (CDE)
- Call Forwarding Don't Answer Intragroup Deny (CDI)
- Call Forwarding Don't Answer Universal (CDU)
- Call Forwarding Don't Answer Variable Timer (CFDVT)
- Internal/External Call Forwarding Don't Answer (IECFD)

These types interact with the SLE features in the following ways:

- The SCA has priority over CFDA. If a caller calls a line with SCA and CFDA active, the call receives SCA treatment. The call receives SCA treatment if the DN of the caller is not on the SCA screening list. If the DN is on the SCA screening list, the system forwards the call if the called party does not answer.
- The SCRJ has priority over CFDA. If a caller calls a line with SCRJ and CFDA active, the call receives SCRJ treatment. The call receives SCRJ treatment if the SCRJ screening list specifies the DN. If the SCRJ

SLE on MDC (continued)

screening list does not contain the DN, the system forwards the call if the called party does not answer.

- The SCF has priority over CFDA. If a caller calls lines with SCF and CFDA active, the system forwards the call to the CFDA forward-to DN. The system forwards the call if the SCF screening list does not specify the DN. If the DN is on the SCF screening list, the system forwards the call to the SCF forward-to DN.
- The DRCW has priority over CFDA. If a caller calls a line with DRCW and CFDA active, distinctive ringing occurs. This ringing occurs until the system forwards the call to the CFDA forward-to DN. The system forwards the call if the DRCW screening list specifies the DN of the caller. Distinctive ringing can occur until the called party answers.

In the intranodal configuration, a CFDA subscriber can forward a call to a line with SCA or SCRJ active. If the SCA list does not specify the DN of the caller, the call does not receive SCA or SCRJ treatment. If the SCRJ list specifies the DN of the caller, the call does not receive SCA or SCRJ treatment. The call receives ringing on the CFDA base station.

Call Forwarding Group Don't Answer

The Call Forwarding Group Don't Answer (CFGDA) feature provides CFDA for hunt groups. If a member of a hunt group does not answer a call, the system forwards the call. The system can forward the call to a DN outside the hunt group. The system can forward the call within the hunt group.

If the system forwards the call outside the hunt group, the system screens the DN like the call forwarding features.

If the system forwards the call within the hunt group, the system screens the calling DN for SCA or SCRJ. The system screens the calling DN against the next member in the hunt group. The system often does not accept the call (SCA) or the system can reject the call (SCRJ). In this event, the system forwards the call to the next hunt group member. The system does not perform SCA or SCRJ treatment on the call.

The SCF does not apply to the CFGDA feature. The DRCW applies to calls forwarded within the hunt group.

Call Forwarding Simultaneous/Screening

Call Forwarding Simultaneous/Screening (CFS) allows the simultaneous call forwarding of more than one call through a base station. The addition of CFS to a line does not change the interactions of the SLE features with any call forwarding features. The CFS does affect the number of calls that SCF can forward at the same time.

SLE on MDC (continued)

Directed Call Pickup Barge-In

The system does not perform screening when the subscriber uses Directed Call Pickup Barge-In (DCBI).

Directed Call Park

The system does not perform screening when the subscriber uses Directed Call Park (DCPK) to park calls or to retrieve parked calls.

Directed Call Pickup

The system does not perform screening when the subscriber uses Directed Call Pickup (DCPU) to pick up calls.

Denied Call Forwarding

The Denied Call Forwarding (DCF) feature has priority over the SLE features.

Do Not Disturb

Do Not Disturb (DND) interacts with the SLE features in the following ways:

- The SCA has priority over DND. If a caller calls a line with both SCA and DND active, the call receives SCA treatment. The call receives treatment if the SCA screening list does not specify the DN of the caller. If the DN is on the SCA screening list, the call receives DND treatment.
- The SCRJ has priority over DND. If a caller calls a line with SCRJ and DND active, the call receives SCRJ treatment. The call receives this treatment if the DN of the caller is on the SCRJ screening list. If the DN is not on the SCRJ screening list, the call receives DND treatment.
- The SCF has priority over DND. If a caller calls a line with SCF and DND active, the system applies a ring splash to the line. The ring splash applies if the SCF screening list specifies the DN of the caller.
- The DND has priority over DRCW. If DND is active, calls do not terminate on the subscriber line. Screening does not occur.

Executive Busy Override

The system does not perform screening when the subscriber uses the Executive Busy Override (EBO) feature.

Make Set Busy

Make Set Busy (MSB) interacts with the SLE features in the following ways:

- The SCA has priority over MSB. If a caller calls a line with SCA and MSB active, the call receives SCA treatment. The call receives this treatment if

SLE on MDC (continued)

the SCA screening list does not specify the DN of the caller. If the DN is on the SCA screening list, the call receives MSB treatment.

- The SCRJ has priority over MSB. If a caller calls a line with SCRJ and MSB active, the call receives SCRJ treatment. The call receives this treatment if the SCRJ screening list specifies the DN of the caller. If the DN is not on the SCRJ screening list, the call receives MSB treatment.
- The SCF has priority over DND. If a caller calls a line with SCF and MSB active, the system applies a ring splash to the line. The ring splash applies if the SLE screening list specifies the DN of the caller.
- The MSB has priority over DRCW. If MSB is active, calls do not terminate on the subscriber line. Screening does not occur.

Message Waiting

The Message Waiting (MWT) feature has two parts. These parts are leaving messages and retrieving messages. The MWT interaction with the SLE features appears in the following paragraphs.

Leaving messages

Before a caller leaves a message, the system screens the DN of the caller. The MWT interacts with the SLE features in the following ways:

- If a caller calls a line with SCA active, the call can receive SCA treatment. The call receives SCA treatment if the SCA screening list does not specify the DN of the caller. The caller cannot leave a message. If the DN is on the SCA screening list, the call terminates on the line. The caller can leave a message.
- If a caller calls a line with SCRJ active, the call can receive SCRJ treatment. The call receives this treatments if the SCRJ screening list specifies the DN of the caller. The caller cannot leave a message. If the DN is not on the SCRJ screening list, the call terminates on the line. The caller can leave a message.
- If a caller calls a line with SCF active, the system can forward the call to the forward-to DN. The system forwards the call if SCF screening list specifies the DN of the caller. If the caller leaves a message, the system leaves the call for the intended terminator. The terminator is the SCF subscriber, not the terminator at the SCF forward-to DN. If the DN is not on the SCF screening list, the system does not forward the call. The caller can leave a message.
- The DRCW does not affect leaving messages.

SLE on MDC (continued)

Retrieving messages

When an MWT subscriber retrieves messages, the system sets up a call to the caller that left the message. When the call terminates, the system screens the DN of the caller. The MWT interacts with the SLE features in the following ways:

- If a caller retrieves a call to a line with SCA active, the system can delete the request. The system deletes the request if the SCA screening list does not specify the DN of the caller. The system retrieves the next queued request. If other requests do not queue, the caller receives the same treatment as a request that does not queue. If the SCA screening list specifies the DN of the caller, the call terminates on the line.
- If a caller retrieves a call to a line with SCRJ active, the system can delete the request. The system deletes the request if the SCRJ screening list specifies the DN of the caller. The system retrieves the next queued request. If other requests do not queue, the caller receives the same treatment as a request that does not queue. If the SCA screening list does not specify the DN, the call terminates on the line.
- The SCF does not interact with MWT retrieval. The system cannot forwards calls made to retrieve messages.
- If a caller retrieves a call to a line with DRCW active, the call can terminate with distinctive ringing. The call can terminate with distinctive call waiting. The call terminates with distinctive ringing or distinctive call waiting if the DRCW screening list specifies the DN of the caller. If the DRCW list does not specify the DN, the call terminates on the line.

Executive Message Waiting

Executive Message Waiting (EWT) has the same interactions as MWT.

Call Park

The system does not perform screening when the subscriber uses Call Park (PRK) to park calls or to retrieve parked calls.

Ring Again

Ring Again (RAG) interacts with the SLE features in the following ways:

- The system does not perform SCA screening during RAG recalls. The system accepts RAG recalls even if the DN of the caller is on the SCA screening list of the subscriber.
- The system does not perform SCRJ screening during RAG recalls. The system accepts RAG recalls even if the DN of the caller is on the SCRJ screening list of the subscriber.

SLE on MDC (continued)

- The SCF does not affect RAG recall ringing.
- The DRCW does not affect RAG recall ringing.

Station Message Detail Recording

When active, Station Message Detail Recording (SMDR) produces records for all calls that originate from a subscriber station. A call causes the system to generate an SMDR record. Screening does not affect this process. When a subscriber enters a SLE session, the system does not generate SMDR records.

Uniform Call Distribution

The SLE features SCA, SCF, and SCRJ do not interact with Uniform Call Distribution (UCD). The UCD agents must not prevent callers that dial the UCD group number from terminating on a specified agent.

The DRCW interacts with UCD. A person calls an UCD agent with DRCW active. If the DN of the caller is on the DRCW screening list, the call terminates with distinctive ringing.

You can reach the UCD agents with 500/2500 sets through a DN separate from the UCD group DN. The system screens calls terminating to UCD members using a separate DN.

Activation/deactivation by the end user

Refer to "Activation/deactivation by the end user" in "Screening List Editing (SLE)" for activation and deactivation procedures for each SLE feature.

Billing

See the SLE feature descriptions for billing and subscription usage sensitive pricing (SUSP) information for each feature.

Station Message Detail Recording

The SLE on MDC does not affect Station Message Detail Recording.

Datafilling office parameters

The SLE on MDC does not affect office parameters. Refer to "Datafilling office parameters" in "Screening List Editing (SLE)" for information on "Datafilling office parameters for Screening List Editing (SLE)".

Datafill sequence

See the SLE feature descriptions for the datafill sequence and procedures for each feature.

SLE on MDC (end)

Tools for verifying translations

The SLE on MDC does not use tools for verifying translations. See the SLE feature descriptions for examples of the output from the translations verification (TRAVER) command. The output occurs when the command is in use to verify translations.

SERVORD

See the SLE feature descriptions for example service orders to add SLE options to lines.

Teen Service on MDC

Ordering codes

Functional group ordering code: MDC00004

Functionality ordering code: MDC00035

Release applicability

BCS30 and later versions

Requirements

Teen Service on MDC has the following requirements:

- Meridian Digital Centrex Minimum, MDC00001
- Meridian Digital Centrex Standard, MDC00003
- Service Enablers, RES00006
- Display Functionality and Privacy, RES00003
- Interface Functionality, RES00004
- Non-Display Services, RES00005

Description

Teen Service on MDC provides multiple directory numbers (DN) on one line without additional line equipment. Different ringing cadences allow end users to screen calls that terminate to the primary directory number (PDN). These ringing cadences also allow the end user to screen a maximum of six secondary directory numbers (SDN) for the same line.

Feature 59006893, Provisioning for Enhanced Multi-NPA (ordering code NPE0004) allows an SDN to have a numbering plan area code different from that of the PDN.

Feature package NTX824AB, Enhanced Call Waiting - IBN, can be present in the office. When this feature is present, calls that terminate to a busy teen service line generate call waiting tone patterns. This teen service line has a Call Waiting feature. These tone patterns identify the DN for which a call waits.

Hardware requirements

Feature package NTX824AB requires three dedicated trunk circuits to produce the teen service call waiting tones. The NT3X68AC trunk card has four circuits for each card. The feature package NTX824AB requires one NT3X68AC trunk card.

Teen Service on MDC (continued)

Operation

Teen Service on MDC is a terminating line feature for single-party lines with a line class code (LCC) of IBN. Teen Service on MDC uses a different ringing cadence for each DN for a line. The different cadences allow the user to determine the different DNs in use.

Teen Service on MDC allows one PDN and a maximum of three SDNs for peripherals. These peripherals must have coded 20-Hz, coded 30-Hz, or superimposed ringing. Operating company personnel can add one SDN for each line on peripherals with frequency selective ringing (FSR). The limited ringing pattern variations that the system produces causes this restriction.

The operating company can assign Teen Service on MDC to specified lines. These lines must connect to the following:

- line concentrating modules (LCM)
- line modules (LM)
- subscriber carrier modules (SCM) with coded and superimposed ringing capability

Remote LMs and LCMs are compatible with Teen Service on MDC.

Teen Service on MDC supports FSR on single-party lines. One assignment of an SDN to a line with FSR can occur. Ringing hardware limits on LM and LCM devices cause this restriction.

Remotes that support the Teen Service on MDC feature and the associated SCMs appear in the following table.

Remotes supporting Teen Service on MDC

Peripheral module	Subscriber carrier module
Remote carrier urban (RCU)	Subscriber Carrier Module-100 Urban (SMU)
Remote concentrator terminal (RCT)	Subscriber Carrier Module-100 Rural (SMR)
Remote concentrator SLC-96 (RCS)	Subscriber Carrier Module-100S (SMS)

Ringling patterns

The Teen Service on MDC feature implements several ringing patterns. These patterns allow the user to distinguish between calls for the PDN and each of the SDNs for the line. The ringing patterns that appear in the following table

Teen Service on MDC (continued)

are for use with each DN associated with a teen service line. The system applies these ringing patterns in a 6-s ringing cycle.

Teen Service on MDC ringing patterns

DN	Pattern
PDN	Normal ringing (approximately 2 s on, 4 s off)
SDN1	2 long rings
SDN2	2 short rings, 1 long ring
SDN3	1 short ring, 1 long ring, 1 short ring

For peripherals with FSR, the system allows one SDN. The ringing patterns that appear in the following table are for lines when the implementation of FSR occurs.

Frequency selective ringing (FSR) patterns

DN	Pattern
PDN	Normal ringing (approximately 2 s on, 4 s off)
SDN1	2 short rings (2 long rings for FSR lines connected to an SCM)

The type of ringing code and the type of peripheral module (PM) determine the durations of the ringing cadences. The type of ringing code are superimposed, FSR, coded 20 Hz, or coded 30 Hz. In the following table, the first four ringing types/devices are host PMs. The fifth ringing type is a remote PM. The ringing durations for the long ring, short ring, and silence between rings appear in the following table.

Ringing duration for Teen Service on MDC

Ring type/device	Long ring	Short ring	Inter-ring silence
Superimposed	0.92 s	0.46 s	0.46 s
Coded 20 Hz	1.00 s	0.50 s	0.50 s
Coded 30 Hz	0.90 s	0.45 s	0.45 s
FSR	-----	0.60 s (first ring) 0.70 s (second ring)	0.65 s
Remote PM	1.00 s	0.50 s	0.50 s

Teen Service on MDC (continued)

Call waiting tones

Special call waiting tones are available in offices with feature package NTX824AB. These special tones allow the end user to distinguish between calls to the PDN and each individual SDN. The tone patterns for each DN associated with a teen service line and the Enhanced Call Waiting feature appear in the following table.

Call waiting tone patterns

DN	Pattern
PDN	0.3 s on
SDN1	0.1 s on, 0.1 s off, 0.1 s on
SDN2	0.1 s on, 0.1 s off, 0.1 s on, 0.1 s off, 0.1 s on
SDN3	0.1 s on, 0.1 s off, 0.3 s on, 0.1 s off, 0.1 s on

User interface

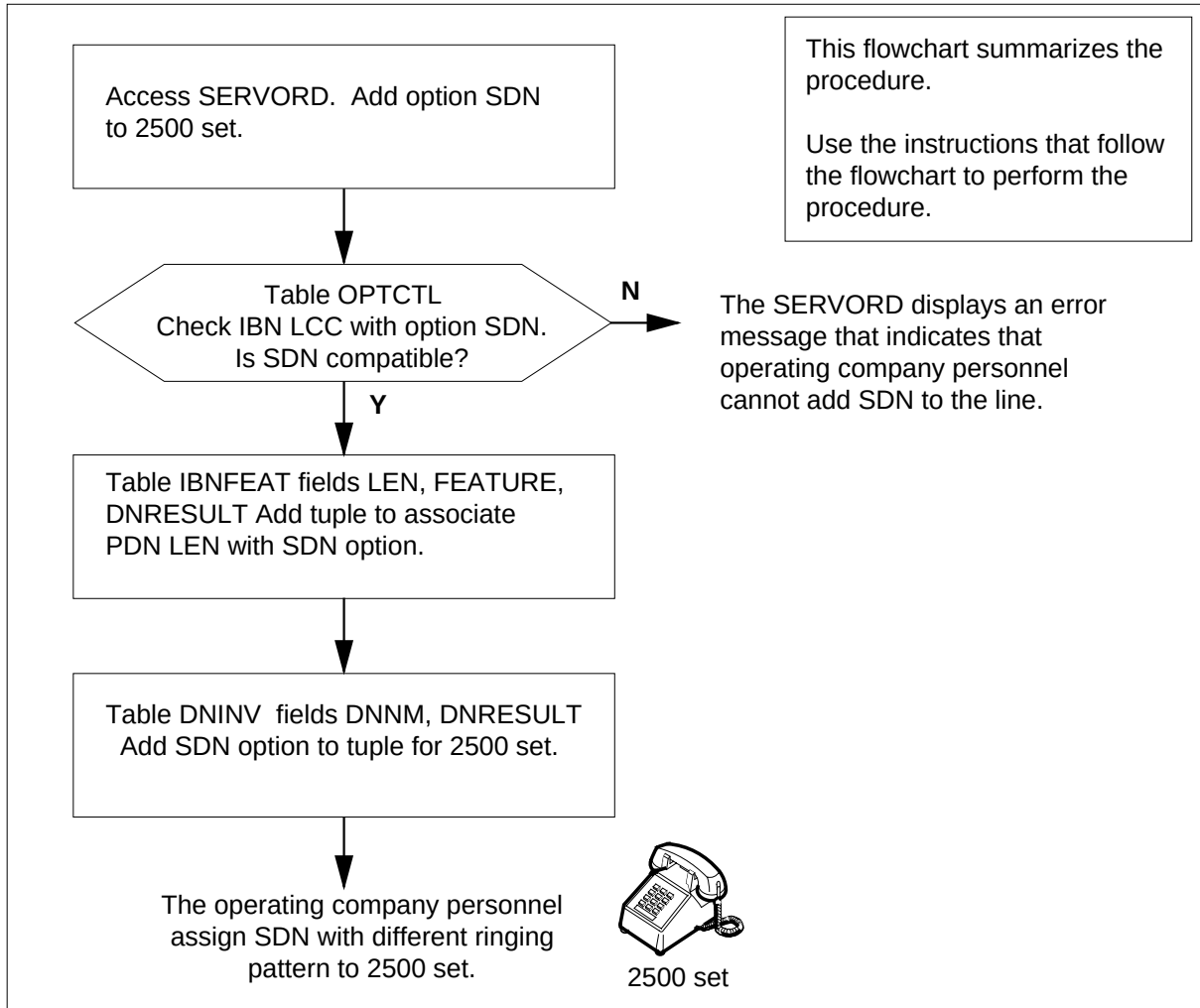
Teen Service on MDC does not affect user interface.

Translations table flow

The description of the Teen Service on MDC translations tables appear in the following list:

- Table OPTCTL (Option Control) contains information about options and LCCs. The OPTCTL tuple for Teen Service on MDC indicates that the assignment of option SDN to specified lines can occur. The specified lines must have LCCs of 1FR, 1MR, IBN, and RES. Teen Service on MDC is in feature package NTXJ47. The tuple in table OPTCTL is indexed under feature package NTX219.
- Table IBNFEAT (IBN Line Feature) lists features assigned to a line. The addition of option SDN can occur to a line through Service Orders (SERVORD). When this event occurs, operating company personnel add SDN to the tuple of the line in table IBNFEAT.
- Table DNINV(Directory Number Inventory) contains information about all assigned and unassigned DNs. The DN in use for the SDN must be an unassigned DN. The data entry for this DN must be BLDN (blank DN) in table DNINV. When the operating company personnel assign an SDN to a line, the DN changes from BLDN to an assigned DN.

The Teen Service on MDC translation process appears in the following flowchart.

Teen Service on MDC (continued)**Table flow for Teen Service on MDC**

In table DNINV, the tuple for the PDN appears in the first entry. The tuple for the SDN appears in the second entry.

The following are items and example data for the datafill table.

- LEN with SDN - HOST 00 0 00 11
- LCC of LEN - IBN
- PDN - 621-1000
- SDN - 621-1111

Teen Service on MDC (continued)

The datafill content of the flowchart appears in the following table.

Datafill example for Teen Service on MDC

Datafill table	Example data
OPTCTL	NTX219AB 1990/10/08 100 1 (SDN 1FR) (SDN 1MR) (SDN IBN) (SDN RES) \$
IBNFEAT	HOST 00 0 01 05 SDN SDN 6136215009 1 P (DNYCWT) 6136215011 2 E \$ \$ 0 N \$ \$ 0 N \$ \$ 0 N \$ \$ 0 N \$
DNINV	613 621 1000 L HOST 00 0 00 11 613 621 1111 SDN HOST 00 0 00 11 SDN1 N

Limits

The following limits apply to the Teen Service on MDC feature:

- Teen Service on MDC requires FSR, coded, or superimposed ringing.
- Teen Service on MDC is not compatible with the following features:
 - Multiple Directory Number (MDN)
 - Uniform Call Distribution (UCD)
 - Call Forwarding Group Don't Answer (CFGDA)
 - Directory Number Hunt (DNH)
 - Multiple Line Hunt (MLH)
- operating company personnel cannot assign Teen Service on MDC on the following types of lines:
 - denied terminating service lines
 - directory line hunt lines
 - private branch exchange (PBX) lines
 - private branch exchange message rate (PBM) lines
 - coin lines
- In NA012, feature 59006893 (ordering code NPE00044), Provisioning for Enhanced Multi-NPA, allows an SDN to contain an NPA different from that of the primary DN. Users can enable or disable this feature through the use of software optionality control (SOC). When this feature is enabled, NPAs of SDNs and primary DNs can be different. When it is disabled, NPAs of SDNs and primary DNs must be the same, though the office codes of these DNs can be different.
- the SDNs can have different office codes but must have the same area code.

Teen Service on MDC (continued)

- a DN must be unassigned to associate this DN with the SDN option. Data entry for an unassigned DN as BLDN. The data entries are in table DNINV.
- for SDNs on lines with call forwarding, the end user can forward SDNs with the PDN or choose not forward SDNs. The end user cannot forward associated SDNs if the end user does not forward the PDN. The end user cannot forward the PDN to one DN and forward an associated SDN to another DN.
- all changes to call forwarding treatment by SDNs must occur through SERVORD.
- operating company personnel must assign no call forwarding or forwarding with the PDN to all SDNs. If the PDN does not have call forwarding, enter N as the call forwarding choice for the associated SDNs.

Interactions

The interactions between Teen Service on MDC and other functionalities appear in the following paragraphs.

- Automatic Call Back/Automatic Recall (ACB/AR). The ACB/AR ringback cadence is like the cadence of SDN2 for lines with coded and superimposed ringing. For FSR, the ACB/AR ringback conflicts with SDN1. The SDN1 is the only SDN on the line.

If a line has SDN and AR, the last call the system received is the call the system returns. The called DN does not affect this condition.
- Call Forwarding (CFW). A line with Teen Service on MDC uses Call Forward Universal (CFU) or Call Forward Fixed (CFF). Teen Service on MDC supports Call Forward Busy (CFB, CBU) and Call Forward Don't Answer (CFD, CDU). The PDN can activate and deactivate call forwarding to another DN. The system can forward SDNs to the same line as the PDN. The end user must specify this action through service orders. The ringing cadence of a forwarded call is always the same as the cadence of the terminating line.
- Calling Number Delivery (CND). A call from a line with Teen Service on MDC can terminate on a line with a display. When this event occurs, the associated PDN appears. Teen Service on MDC is a terminating feature. A line with Teen Service on MDC and a display can receive and display calling numbers to the PDN and SDNs.
- Customer Originated Trace (COT). The Teen Service on MDC end user cannot discriminate malicious calls between the PDN and the SDNs. The system traces the last call the physical line receives. The system always detects that the PDN received the last call. The called DN on a Teen Service on MDC line does not affect this action. Calls that the system

Teen Service on MDC (continued)

traces back to a Teen Service on MDC line indicate the PDN. The PDN is the caller that the system identifies.

- **Distinctive Ringing.** Distinctive ringing patterns conflict with SDN unique ringing cadences. Teen Service on MDC line must not have distinctive ringing patterns. When a line has both features, Teen Service on MDC has priority.
- **Enhanced Call Waiting.** To provide complete call waiting abilities, the Teen Service on MDC line must have Call Waiting (CWT) and Call Waiting Intragroup (CWI). Special call waiting tone patterns are available if feature package NTX824AB is also available in the office. An end user with Enhanced Call Waiting can use the call waiting tone pattern. The end user can use the call waiting tone pattern to distinguish between calls to the PDN and each individual SDN.

Activation/deactivation by the end user

Teen Service on MDC does not require activation or deactivation by the end user.

For Teen Service on MDC lines with call forwarding abilities, the PDN activates and deactivates call forwarding to another DN. The system can forward each SDN with the PDN. In some conditions, the system does not forward the SDN. All SDNs associated with a specified line do not always use the same method to handle call forwarding.

Any changes or additions to the call forwarding treatment by SDNs must occur through service orders. The end user cannot alter call forwarding treatment. See "Service orders" in this feature description for additional information.

Billing

Teen Service on MDC does not affect billing.

Station Message Detail Recording

Teen Service on MDC does not affect Station Message Detail Recording.

Datafilling office parameters

Teen Service on MDC does not affect office parameters.

Datafill sequence

The tables that require datafill to implement Teen Service on MDC appear in the following table. The tables appear in the correct entry order.

Teen Service on MDC (continued)

Tables that receive data when the operating company adds option SDN to a line through SERVORD appear in the following table.

Datafill requirements for Teen Service on MDC

Table	Purpose of table
IBNFEAT	IBN Line Feature. This table contains line features for the IBN lines that appear in table IBNLINES.
DNINV	Directory Number Inventory. This table replaces table DN. This table contains the data for all assigned and unassigned DNs. These DNs include the DNs in the table DNROUTE. The system adds information when assignment or use of DNs occurs in other tables. Examples of other tables are LENLINES or IBNLINES.
Note: Enter data in this table through SERVORD. A datafill procedure is not available.	

The tables that require data entry to provide call waiting tone patterns for Teen Service on MDC appear in the following table. If feature package NTX824AA is present, tables CLLI and STN require datafill.

Datafill requirements for Teen Service on MDC

Table	Purpose of table
CLLI	Common Language Location Identifier. This table identifies the far end of each of the following: • announcement • tone • trunk group • test trunk • national milliwatt test lines • service circuit
STN	Special Tone. This table contains information about special tones. These tones include the distinctive call waiting tones in use with Teen Service on MDC.

The tables that provide different ringing cadences for Teen Service on MDC appear in the following table. Enter data in the table for the line module equipment (LME) to which the SDN line connects. The ringing type must be

Teen Service on MDC (continued)

coded, FSR, or superimposed as data entry indicates for each LME for the following:

- LMs in table LMRNG (Line Module Ring Code)
- LCMs and Remote Line Concentrating Modules (RLCM) in table LCMINV (Line Concentrating Module Inventory)
- RCSs in table RCSINV (Remote Concentrator Subscriber Inventory)
- RCUs in table RCUINV (Remote Carrier Urban Inventory)
- RCTs in table RCTINV (Remote Concentrator Terminal Inventory)

Datafill requirements for Teen Service on MDC

Table	Purpose of table
LMRNG	Line Module Ring Code. This table specifies the type of ringing for each line module (LM) or remote line module (RLM).
LCMINV	Line Concentrating Module Inventory. This table contains the data assignments for each bay associated with a line concentrating module (LCM).
RCSINV	Remote Concentrator Terminal This table contains data assignments for each RCS module.
RCUINV	Remote Carrier Urban Inventory. This table contains an inventory of RCU modules that attach to a DMS-100 switch. This table contains information on data assignments for each RCU.
RCTINV	Remote Concentrator Terminal Inventory. This table contains data assignments for each RCT unit.

Datafilling table CLLI

Table CLLI (Common Language Location Identifier) contains the codes that identify the far end of each announcement, tone, or trunk group. Table CLLI must contain pseudocodes for the three distinctive call waiting tones that feature package NTX824AB provides.

Datafill for Teen Service on MDC for table CLLI appears in the following table. The fields that apply to Teen Service on MDC appear in this table. See

Teen Service on MDC (continued)

the Customer Data Schema Reference Manual for a description of the other fields.

Datafilling table CLLI

Field	Subfield	Entry	Explanation and action
CLLI		ENHCWT1, ENHCWT2, or ENHCWT3	Common Language Location Identifier. This field specifies the pseudocodes for the three distinctive call waiting tones. Enter ENHCWT1, ENHCWT2, or ENHCWT3.
ADNUM		0 to 8192	Administrative Trunk Group Number. This field specifies the trunk group number. Enter a value from 0 to 8192.
TRKGRSIZ		0 to 2047	Trunk Group Size. This field specifies the maximum number of trunk members to assign to the trunk group. Enter a value from 0 to 2047.
ADMININF		32 alphanumeric	Administration Information. This field contains information about the CLLI. Enter a maximum of 32 alphanumeric characters. Use an underscore (_) to separate words.

Datafill example for table CLLI

Sample datafill for table CLLI appears in the following example.

MAP example for table CLLI

CLLI	ADMUM	TRKGRSIZ	ADMININF
ENHCWT1	60	10	ENHANCED_CWT_TONE_1
ENHCWT2	62	10	ENHANCED_CWT_TONE_2
ENHCWT3	63	10	ENHANCED_CWT_TONE_3

Datafilling table STN

Table STN (Special Tone) contains information about special tones. These tones include the distinctive call waiting tones in use with Teen Service on MDC. This table must contain information about call waiting tones ENHCWT1, ENHCWT2, and ENHCWT3.

Teen Service on MDC (continued)

Datafill for Teen Service on MDC for table STN appears in the following table. The fields that apply to Teen Service on MDC appear in this table. See the Customer Data Schema Reference Manual for a description of the other fields.

Datafilling table STN

Field	Subfield	Entry	Explanation and action
SK		see subfields	Special Tone Key. This field contains subfields TONE and MEMBER.
	TONE	ENHCWT1, ENHCWT2, ENHCWT3	Tone. This subfield specifies the pseudocode for the tone trunk circuit in table CLLI. Enter ENHCWT1, ENHCWT2, or ENHCWT3.
	MEMBER	0 to 999	Member Number. This subfield specifies the member number for the tone trunk circuit. Enter a value from 0 to 999.
TMTYPE		MTM, STM	Trunk Module Type. This field specifies the trunk module type. Enter MTM for maintenance trunk module. Enter STM for service trunk module.
TMNO		0 to 2047	Trunk Module Number. This field specifies the member number for the MTM or STM that contains the tone trunk circuit. Enter a value from 0 to 2047.
TMCKTNO		0 to 29	Trunk Module Circuit Number. This field specifies the trunk module circuit on the MTM or STM to which the assignment of the tone trunk circuit occurs. Enter a value from 0 to 29.
CARDCODE		3X68AC	Card Code. This field specifies the product engineering code of the tone trunk circuit. Enter 3X68AC.
MAXCONN		0 to 255	Maximum Connections. This field specifies the maximum number of simultaneous connections to the tone trunk circuit that can occur. Enter a value from 0 to 255.
TRAFSNO		0 to 127	Traffic Separation Number. This field specifies the outgoing traffic separation number for the tone. Enter a value from 0 to 127. A value of 0 specifies that traffic separation does not occur.

Datafill example for table STN

Sample datafill for table STN appears in the following example.

Teen Service on MDC (continued)**MAP example for table STN**

SK	TMTYPE	TMNO	TMCKTNO	CARDCODE	MAXCONN	TRAFSNO
ENHCWT1 0	MTM	3	11	3X68AC	10	0

Datafilling table LMRNG

Table LMRNG (Line Module Ring Code) specifies the type of ringing for each LM or remote line module (RLM).

Datafill for Teen Service on MDC for table LMRNG appears in the following table. The fields that apply to Teen Service on MDC appear in this table. See the Customer Data Schema Reference Manual for a description of the other fields.

Datafilling table LMRNG

Field	Subfield	Entry	Explanation and action
RNGDATA		see subfield	Ring Data. This field contains several subfields. Subfield RNGTYPE applies to distinctive ringing.
	RNGTYPE	F, UNASSIGNED	Ring Type. This subfield specifies the type of ringing for the LM. Enter F to specify frequency selective ringing. Enter UNASSIGNED when you change the ring type of a tuple.

Datafill example for table LMRNG

Sample datafill for table LMRNG appears in the following example.

MAP example for table LMRNG

FRAMENO	CNPRESV	RNGDATA	EXPRETRP
HOST 02	52V	F 16 17 20 25	Y

Teen Service on MDC (continued)

Error messages for tables LMRNG, LCMINV, RCSINV, RCUINV, AND RCTINV

The following error messages apply to tables LMRNG, LCMINV, RCSINV, RCUINV, and RCTINV.

Error messages for table LMRNG, LCMINV, RCSINV, RCUINV, AND RCTINV

Error message	Explanation and action
SDNS 2 AND/OR 3 NOT ALLOWED WITH FREQUENCY SELECTIVE RINGING SDNS2 AND/OR 3 FOUND ON FOLLOWING LINES: npa nxx-xxxx SDN2 SDN3	Lines with FSR can have only one SDN. Delete the second and third SDNs from the PDNs that appear in the error message. Repeat the addition or change the tuple.
SDNS NOT ALLOWED WITH NEW RINGTYPE. SDNS FOUND ON FOLLOWING LINES: npa nxx-xxxx SDN1 SDN2 SDN3	The ring type in RNGTYPE is not compatible with the SDNs. The correct input differs for the different line equipment tables. Refer to individual data entry procedures for a list of correct ring types for each table. Remove the SDNs that appear in the error output, or change the value of RNGTYPE.

Datafilling table LCMINV

Table LCMINV (Line Concentrating Module Inventory) contains assignments for each bay associated with the following:

- a local RLCM
- a convertible RLCM
- an international local RLCM (IRLCM)
- an ISDN LCM (LCMI)
- a Meridian cabinet line module (MCLM)
- an enhanced ISDN LCM (LCME)

Teen Service on MDC (continued)

Datafill for Teen Service on MDC for table LCMINV appears in the following table. The fields that apply to Teen Service on MDC appear in this table. See the data schema section of this document for a description of the other fields.

Note: See “Error messages for tables LMRNG, LCMINV, RCSINV, RCUINV, and RCTINV” in this document for information on the error messages that relate to this table.

Datafilling table LCMINV

Field	Subfield	Entry	Explanation and action
LCMTYPE		LCM, ALCM, ILCM, ELCM, SRU, LCME, or LCM	LCM Type. This field specifies the line equipment module type. Enter LCM, ALCM, ILCM, ELCM, SRU, LCME, or LCMI. This field contains several subfields. Subfields RGEQUIP and RNGTYPE apply to this feature.
	RGEQUIP	Y	If LCMTYPE contains LCM, ALCM, ILCM, ELCM, SRU, LCME, or LCMI, subfield RGEQUIP requires datafill. Ringing Equipment. This subfield specifies if a ringing generator is equipped. Enter Y. If RGEQUIP contains Y, subfield RNGTYPE requires datafill.
	RNGTYPE	C, F, S, C30, UNASSIGNED	Ringing Type. This subfield specifies the type of ringing for the LCM. Enter one of the following ringing types: • C coded (at 20 Hz) • F frequency • S superimposed • C30 coded (at 30 Hz) • Enter UNASSIGNED when you change the ring type of a tuple.

Datafill example for table LCMINV

Sample datafill for table LCMINV appears in the following example.

Teen Service on MDC (continued)

MAP example for table LCMINV

LCMNM	FRTYPE	SHPOS	FLOOR	ROW	FRPOS	EQPEC	LOAD
CSPMNO					BICTST	ADNUM	MEMSIZE
							LCMTYPE
HOST 00 0	LCE	4	1	P	2	6X04AA	NIL_LOAD
LGC 0				N		62	256K
LCM Y C	REA	20 30 40 50	HLCM	(12)	(14)	(13)	(15) R

Datafilling table RCSINV

Table RCSINV (Remote Concentrator Subscriber Inventory) contains different data assignments for each RCS module.

Datafill for Teen Service on MDC for table RCSINV appears in the following table. The fields that apply to Teen Service on MDC appear in this table. See the data schema section of this document for a description of the other fields.

Note: See “Error messages for tables LMRNG, LCMINV, RCSINV, RCUINV, and RCTINV” in this feature description for information on the error messages that relate to this table.

Datafilling table RCSINV

Field	Subfield	Entry	Explanation and action
RNGTYPE		C, C30, F, S, UNASSIGNED	Ringing Type. This field specifies the type of ringing for the RCS. Enter one of the following ringing types: • C - coded (at 20 Hz) • C30 - coded (at 30 Hz) • F - frequency ringing (If RNGTYPE contains F, subfield FREQUENCIES requires datafill.) • S - superimposed ringing • Enter UNASSIGNED when you change the ring type of a tuple.

Datafill example for table RCSINV

Sample datafill for table RCSINV appears in the following example.

Teen Service on MDC (continued)**MAP example for table RCSINV**

RCSNO	ADNUM	FRTYPE	FRNO	SHPOS	FLOOR	ROW	FRPOS	LOAD
CSPMNO								ABINFO
								CDINFO
RNGTYPE	ACU	PROTINFO						SCSDINFO
MISCTEXT								ALMSEVER
REM2	01 2 63	RCE	29	48	2	A	4	NO_LOAD
SMS	9							MODE1 (17) (18) \$
								MODE2 (12) \$ N
C	WP1	N				Y	9 4 8 0	
DOOR	OPEN							MINOR

Datafilling table RCUINV

Table RCUINV (Remote Carrier Urban Inventory) contains an inventory of RCU modules that attach to a DMS-100 switch. This table contains information on data assignments for each RCU.

Teen Service on MDC (continued)

Datafill for Teen Service on MDC for table RCUINV appears in the following table. The fields that apply to Teen Service on MDC appear in this table. See the data schema section of this document for a description of the other fields.

Note: See “Error messages for tables LMRNG, LCMINV, RCSINV, RCUINV, and RCTINV” in this feature description for information on the error messages that relate to this table.

Datafilling table RCUINV

Field	Subfield	Entry	Explanation and action
RNGDATA		see subfield	Ringing Data. This field contains subfield RNGTYPE.
	RNGTYPE	C, C3, F, S, UNASSIGNED	Ringing Type. This subfield specifies the type of ringing for the RCU. Enter one of the following ringing types: • C - coded (at 20 Hz) • C3 - coded (at 30 Hz) • F - frequency selective (If RNGTYPE contains F, subfield FREQUENCIES requires datafill.) • S - superimposed • Enter UNASSIGNED when you change the ring type of a tuple.

Datafill example for table RCUINV

Sample datafill for table RCUINV appears in the following example.

MAP example for table RCUINV

RCUN0	ADNUM	FRTYPE	FRN0	SHPOS	FLOOR	ROW	FRPOS	CSPMNO										
								CSLNKTAB										
RNGDATA	LTA	RLTP	RTAC	LINESHF1	CTRLSHF2		LINESHF2											
SSM1	SSM2				SYSTM0PT		DRTUTEST											
REM1	01	2	0	RTR	29	48	2	A										
		(1	1)	(2	2)	(3	3)	(4	4)	(5	5)	(6	6)	(7	7)	(8	8)	\$
C			Y	Y	Y	Y	Y	Y										
N		N						S									N	

Teen Service on MDC (continued)

Datafilling table RCTINV

Table RCTINV (Remote Concentrator Terminal Inventory) contains different data assignments for each RCT unit.

Datafill for Teen Service on MDC for table RCTINV appears in the following table. The fields that apply to Teen Service on MDC appear in this table. See the data schema section of this document for a description of the other fields.

Note: See “Error messages for tables LMRNG, LCMINV, RCSINV, RCUINV, and RCTINV” in this feature description for information on the error messages that relate to this table.

Datafilling table RCTINV

Field	Subfield	Entry	Explanation and action
RNGDATA		see subfield	Ringing Data. This field contains subfield RNGTYPE.
	RNGTYPE	C, C3, F, S, UNASSIGNED	Ringing Type. This subfield specifies the type of ringing for the RCT. Enter one of the following ringing types: • C - coded (at 20 Hz) • C30 - coded (at 30 Hz) • F - frequency selective ringing (If - RNGTYPE contains F, subfield - FREQUENCIES requires datafill.) • S - superimposed • Enter UNASSIGNED when you change the ring type of a tuple.

Datafill example for table RCTINV

Sample datafill for table RCTINV appears in the following example.

Teen Service on MDC (continued)

MAP example for table RCTINV

RCTNO	ADNUM	FRTYPE	FRNO	SHPOS	FLOOR	ROW	FRPOS	LOAD
CSPMNO							LKINFO	
RNGDATA							LINEAUDT	
REM 1 01 2 70		RTR	29	48	2	A	4 NO_LOAD	
SMR 9							(17) (18) \$	
C					SLTA		Y	

Tools for verifying translations

Tools for verifying translations support Enhanced secondary DN (ESDN) originations.

SERVORD

To assign Teen Service MDC to a single-party IBN line, add option SDN to line.

When you add option SDN with the ADO command, SERVORD prompts for a SDN. To add more SDNs to the line, you must place additional SDN options on the line. SERVORD does not allow assignment of DN's that are already in use.

Feature 59006893, Provisioning for Enhanced Multi-NPA allows an SDN to have an NPA different from that of the primary DN.

To remove the Teen Service on MDC feature from the line, you must delete each occurrence of option SDN. To delete the SDN option, use the DEO (delete option) command.

The QDN (query directory number) command provides accurate responses when you query an IBN line with option SDN.

The following options are not compatible with Teen Service on MDC:

- DLH
- DNH
- GND
- HOT
- MLH

Teen Service on MDC (continued)

- PILO
- PRH
- SHU
- TERM
- TRMBOPT

SERVORD limits

Teen Service on MDC does not have SERVORD limits.

SERVORD prompts

The SERVORD prompts used to assign Teen Service on MDC to a line appear in the following table.

SERVORD prompts for Teen Service on MDC (Sheet 1 of 2)

Prompt	Valid input	Explanation
SONUMBER	Refer to DMS-100 SERVORD Reference Manual (297-8001-8081).	The number of the service order the user enters.
DN_OR_LEN	Up to 15 digits for DN. Refer to DMS-100 SERVORD Reference Manual (297-8001-8081) for LEN.	Directory number or Line equipment number associated with the service that is to be established, modified, or deleted.
OPTION	SDN	Specifies the option to add, delete, or change. Enter SDN.
SDN	Up to 15 digits	Specifies the DN of the SDN. This DN must be correct for the office and currently unassigned (BLDN in table DNINV). An SDN can have a different NPA from that of the PDN. This is due to feature 59006893, Provisioning for Enhanced Multi-NPA. When a call terminates to this DN, a ringing cadence associated with the SDN_NO rings the line. Enter the DN of the SDN.
SDN_RING	0, 1, 2, 3	This prompt specifies the ringing cadence in use to ring the SDN. Enter a value from 0 to 3. Enter 1 for lines with FSR.

Teen Service on MDC (continued)

SERVORD prompts for Teen Service on MDC (Sheet 2 of 2)

Prompt	Valid input	Explanation
SDN_OPT	N, P, E	Specifies call forwarding for the SDN. N specifies no call forwarding. P specifies call forwarding with the PDN. If the PDN does not have option CFW, or if call forwarding use sensitive pricing is not available, enter N in SDN_CFW. Specify a call forwarding choice for each SDN. The PDN does not require call forwarding. N and P options are for SDN only. Note: If feature package NTXE94AA (Secondary Directory Number Options, ordering code RES00017) is present in the office, you can use option E, which is Enhanced SDN.
SDN_DNY	NODNY, DNYCWT	Enter \$. NODNY (No deny to call waiting) and DNYCWT (Deny call waiting) are not applicable to MDC.

Note: The system enters data in tables IBNFEAT and DNINV when you use SERVORD to assign Teen Service on MDC.

SERVORD example for adding Teen Service on MDC

The following example shows how you use the ADO command to assign Teen Service on MDC to a line.

Teen Service on MDC (end)

SERVORD example for Teen Service on MDC in prompt mode

```
>ADO
SONUMBER:  NOW 99  1   2   AM
>
DN_OR_LEN:
> 6137211000
OPTION:
> SDN
SDN:
> 6137211001
SDN_RING:
> 1
SDN_OPT:
> P
SDN_DNY:
>$
OPTION:
> SDN
SDN:
> 7211002
SDN_RING:
> 2
SDN_OPT:
> N
SDN_DNY:
>$
OPTION:
> $
```

SERVORD example for Teen Service on MDC in no-prompt mode

```
>ADO $ 6137211000 SDN 6137211001 1 P $ SDN 7211002 2 N $ $
```

3 Datafilling MDC MBG Minimum

The following chapter describes the MDC MBG Minimum, MDC00005, functionality.

IBN ISUP NETINFO Translations-Canada only

Ordering codes

Functional group ordering code: MDC00005

Functionality ordering code: does not apply

Release applicability

NA008 and later versions

Requirements

To operate, IBN ISUP NETINFO Translations-Canada only has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC Standard, MDC00003
- Base ISUP, ISP70001

Description

The IBN ISUP NETINFO Translations feature provides enhancements to the IBN integrated services digital network user part (ISUP) signaling. This signaling is between a DMS-250 system and a DMS-100 system and between two DMS-100 systems. The enhancements are as follows:

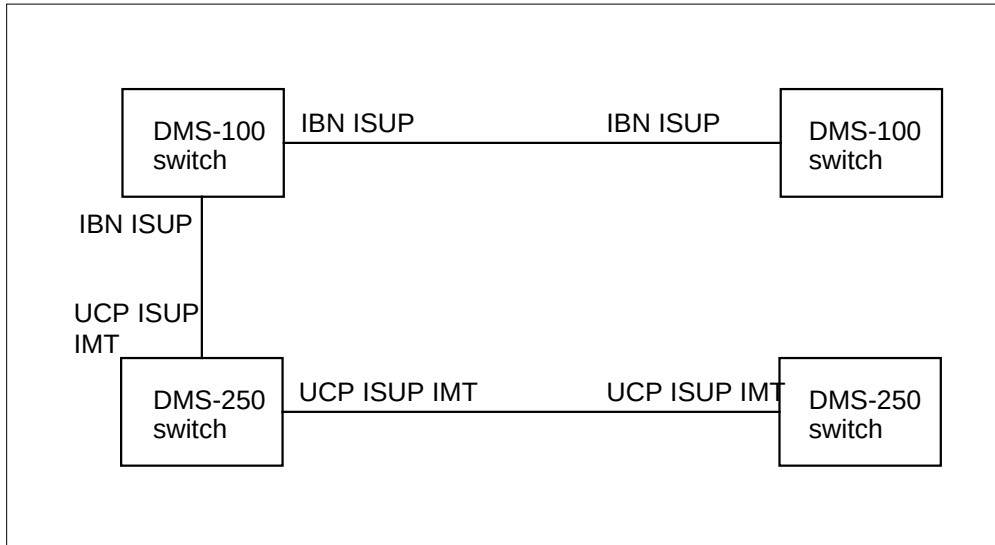
- The nature of connection indicators parameter allows mapping of satellite information to and from the initial address message (IAM).
- Use of the network information (NETINFO) parameter of the IAM occurs in translations.
- The internal network class of service (NCOS) maps to a network NCOS. A network NCOS maps to an internal NCOS.
- The system generates the NETINFO parameter for calls that originate over IBN offnet access trunks.

Note: This feature applies to the DMS-100 system with MDC software. This feature applies to the SL-100 system.

Operation

Trunks at the DMS-250 end are universal carrier protocol (UCP) ISUP intermachine trunks (IMT). Trunks at the DMS-100 end are IBN ISUP trunks. The trunk types appear in the following figure.

IBN ISUP NETINFO Translations-Canada only (continued)

Trunk types**Satellite information**

Network calls can use satellite links between network nodes. These links add approximately a 0.25 s delay in speech transmission. This delay normally causes a restriction of one satellite link in the call setup for calls. In table TRKSGRP (Trunk Subgroup), subfield SAT specifies if the trunks in the subgroup are satellite links.

To determine if use of a satellite link occurred for a call, satellite information must transmit from switch to switch. Without IBN ISUP NETINFO Translations, satellite information transmits between DMS-100 systems through an electronic switched network (ESN) call type. This transmission is part of the IAM called party address parameter. With this feature, satellite information is transmitted with the nature of connection indicators parameter in the IAM.

Note: Satellite information can continue to transmit through the ESN call type. This transmission is redundant.

For calls that come in on an IBN PTS trunk, satellite information transmits through an ESN call type. The system maps this information to the nature of connection indicators parameter for an outgoing IBN ISUP trunk.

The IBN ISUP NETINFO Translations also allows satellite information between a DMS-250 switch and a DMS-100 switch to transmit. The nature of connection indicators parameter in the IAM allows this transmission.

IBN ISUP NETINFO Translations-Canada only (continued)

Nature of connection indicators parameter

The nature of connection indicators parameter is a required parameter of the IAM. This parameter contains three indicators. These indicators are satellite, continuity check, and echo suppressor. The satellite indicator specifies if a satellite link is in use.

NETINFO parameter in translations

The NETINFO parameter of the IAM contains three fields. These fields are network identification (NETID), network customer group identification (NETCGID) and NCOS. The IBN ISUP NETINFO Translations-Canada only uses the NETINFO parameter to set up translations.

Note: The NETID field corresponds to field NETNAME in table NETNAMES (Internal Logical Network Names).

DMS-250 to DMS-100 translations

A serving translation scheme (STS) determines translations on a DMS-250 switch. A customer group and NCOS determine translation on a DMS-100 switch. The NETINFO parameter provides the information for mapping between the DMS-250 and DMS-100 translation schemes.

On a call from a DMS-250 switch to a DMS-100 switch, the DMS-250 switch maps the STS of the call to the NETINFO fields. The information in the fields transmit as part of the IAM. Use of the information occurs for call setup on an UCP ISUP IMT trunk.

At the receiving end, the DMS-100 switch can map NETINFO fields NETID and NETCGID to an internal customer group. The switch maps the fields through table CUSTNTWK (Customer Group Network). This switch also maps the NCOS to an internal NCOS through tables CUSTNTWK and COSDATA (Network Class of Service Data). Use of the internal customer group and NCOS occurs to define the translation scheme for the DMS-100 switch.

DMS-100 to DMS-100 translations

The originating DMS-100 switch maps internal customer group information from table CUSTNTWK to NETINFO fields NETID and NETCGID. The switch also maps the internal NCOS from tables CUSTNTWK and COSDATA to NETINFO field NCOS.

At the receiving end, the DMS-100 switch can map the NETID and NETCGID fields to an internal customer group through table CUSTNTWK. The switch can map the NCOS field to an internal NCOS through tables CUSTNTWK and

IBN ISUP NETINFO Translations-Canada only (continued)

COSDATA. If the switch maps an internal customer group and NCOS, use of the group and NCOS defines the translation scheme for the DMS-100 switch.

Enabling NETINFO translations

Use of information from the NETINFO parameter for translations on the receiving DMS-100 switch is optional. Datafill enables this use. To enable NETINFO translations, subfield OPTION must contain NETXLA in table TRKGRP (Trunk Group). Option NETXLA is a correct option for ISUP trunks (trunk group types IBNTI and IBNT2).

Sample datafill for NETINFO translations

This section illustrates the use of datafill information to determine translations. The first tuple for tables TRKGRP and TRKSGRP contains datafill for trunk group ISUPTRK1. For this trunk group, the information in the NETINFO parameter of the IAM determines translations. The second tuple for each table contains datafill for trunk group PTSTRK1. For this trunk group, the information in the NETINFO parameter does not determine translations.

MAP example for table TRKGRP

GRPKEY	GRPINFO
ISUPTRK1 IBNTI 0	
ELO NCRT BNR 0 0 6196757000 ANSDISC 2 N N N N N N N 0	0 N N N N N NETXLA \$
PTSTRK1 IBNTI 0	
ELO NCRT BNR 0 MIDL 0 6196757000 ANSDISC 2 N N N N	N N N 0 0 N 0 0 0 0 N N N Y N N N N N \$

MAP example for table TRKSGRP

SGRPKEY	CARDCODE	SGRPVAR
ISUPTRK1 0	DS1SIG	
	STD IC SS7 F N THRL 0 UNEQ Q764 NIL DMSNODE \$	
PTSTRK1 0	DS1SIG	
	STD 2W SS7 F N THRL 0 UNEQ Q764 NIL DMSNODE CIC \$	

Possible error conditions

The NETINFO parameter is not in use in the following conditions:

- Addition of option NETXLA can occur to a trunk group. The NETINFO parameter is not received or not correct. When this condition occurs, use

IBN ISUP NETINFO Translations-Canada only (continued)

of the customer group and NCOS from the incoming trunk group occurs to set up translations.

- Addition of option NETXLA to a trunk group can occur. The NETINFO fields NETCGID and NETID do not map to an internal customer group through table CUSTNTWK. When both conditions occur, the system routes the call to vacant code (VACT) treatment.

NCOS mapping

Option COSMAP in table CUSTNTWK provides NCOS mapping. There are two subfields associated with option COSMAP. These subfields are COSMIN and COSMOUT. Each subfield contains a mapping name from table COSMAP. With the internal or network NCOS, use of the mapping name occurs to index table COSDATA to retrieve an internal or network NCOS.

For incoming calls, NETINFO fields NETID and NETCGID map to an internal customer group through table CUSTNTWK. The NETINFO field NCOS and table COSMAP subfield COSMIN map to an internal NCOS in table COSDATA.

The NCOS mapping does not occur and use of the network NCOS occurs in place of the internal NCOS in one of the following conditions:

- option COSMAP does not contain datafill for the customer group
- the mapping name from table CUSTNTWK subfield COSMIN and NETINFO field NCOS are not in table COSMAP

For outgoing calls, the internal customer group maps through table CUSTNTWK to NETINFO fields NETID and NETCGID. Option COSMAP can contain datafill for the customer group in table CUSTNTWK. When this condition occurs, the internal NCOS maps to a network NCOS for the NETINFO field NCOS. The mapping occurs through table COSDATA. The mapping uses the mapping name in table CUSTNTWK subfield COSMOUT and the internal NCOS.

The NCOS mapping does not occur. Use of the internal NCOS occurs in the NETINFO parameter in one of the following conditions:

- option COSMAP does not contain datafill for the customer group
- the mapping name and internal NCOS do not have correct datafill in table COSDATA

Example datafill for NCOS mapping appears in the following figure. The text following the examples describes how the datafill affects NCOS mapping. The

IBN ISUP NETINFO Translations-Canada only (continued)

examples apply when field SCREEN in table COSMAP contains ALLOW and field VALTYPE in table COSMAP contains ANYTHING.

NCOS mapping example

TABLE: COSMAP			
NAME	MAX	SCREEN	VALTYPE
MAP1	250	ALLOW	ANYTHING
MAP2	300	ALLOW	ANYTHING
MAP3	200	ALLOW	ANYTHING
MAP4	250	ALLOW	ANYTHING
TABLE: NETNAMES			
NETNAME	EXTNETID	NETDIGS	NETOPTS
NET1	1	0	\$
NET2	2	0	\$
NET3	3	0	\$
TABLE: CUSTNTWK			
CUSTNAME	NETNAME	NETCGID	OPTIONS
CGRP1	NET1	1	(COSMAP MAP1 MAP2) \$
CGRP2	NET2	2	\$
CGRP3	NET3	3	(COSMAP MAP3 MAP4) \$
TABLE: COSDATA			
COSMAP	COS	RESULT	
MAP1	3	10	
MAP2	10	3	

Example of network NCOS to internal NCOS mapping

For an incoming call, the NETINFO parameter contains the NETID 1 and the NETCGID 1. The NETID 1 and NETCGID 1 maps to internal customer group CGRP1 through table CUSTNTWK. Because customer group CGRP1 has option COSMAP, the system indexes table COSDATA to pick up an internal NCOS. If the NETINFO parameter contains a network NCOS of 3, the internal NCOS is 10. This condition occurs because mapping name MAP1 with NCOS 3 maps to the number 10 in table COSDATA. For the same customer group the network NCOS in the NETINFO parameter can be 9. When this condition occurs, the internal NCOS is also 9 because an entry is not in table COSDATA for mapping name MAP1 and NCOS 9.

IBN ISUP NETINFO Translations-Canada only (continued)

An incoming call with NETID 2 and NETCGID 2 in the NETINFO parameter maps to internal customer group CGRP2 through table CUSTNTWK. Customer group CGRP2 does not have option COSMAP. Because this group does not have this option, NCOS mapping does not occur. The internal NCOS is the same as the network NCOS in the NETINFO parameter.

An incoming call with NETID 3 and NETCGID 3 in the NETINFO parameter maps to internal customer group CGRP3 through table CUSTNTWK. The mapping name that indexes to table COSDATA to pick up an internal NCOS is MAP3. The NCOS mapping does not occur because MAP3 is not in table COSDATA. Use of the network NCOS in the NETINFO parameter also occurs as the internal NCOS.

Example of internal NCOS to network NCOS mapping

For an outgoing call with internal customer group CGRP1, entry of option COSMAP occurs. Because of this condition, use of MAP1 and the internal NCOS to index to table COSDATA occurs to pick up a network NCOS. Position of the network NCOS occurs in the NETINFO parameter. If the internal NCOS is 10, the network NCOS is 3. For example, if the internal NCOS is 14, the network NCOS is 14. The NCOS mapping cannot occur in this example because an entry is not in table COSDATA for mapping name MAP1 and NCOS 14.

If an outgoing call has an internal customer group of CGRP2, NCOS mapping does not occur. This condition occurs because customer group CGRP2 does not have option COSMAP in table COSDATA. Use of the internal NCOS occurs as the network NCOS in the NETINFO parameter.

An outgoing call can have an internal customer group of CGRP3. For this call, use of MAP4 and the internal NCOS occurs to index to table COSDATA. This action occurs to pick up a network NCOS. The NCOS mapping does not occur for this customer group because MAP4 is not in table COSDATA. Use of the internal NCOS occurs as the network NCOS in the NETINFO parameter.

Table COSDATA provides methods to map from one number (COS) to another (RESULT).

Generating the NETINFO parameter

This section applies to the DMS-100 system that has feature package NTXE75AB, Offnet Access Services, or NTXA92AA, SL-100 Feature Group D.

Before BCS30, the system generated the NETINFO parameter when the customer group and NCOS can identify the caller. This condition occurred when the originator was an IBN line, attendant console, or ISUP trunk. For

IBN ISUP NETINFO Translations-Canada only (continued)

another originator, the system retrieves the customer group to associate with the caller from the incoming trunk group datafill. The trunk group datafill determines the customer group. Because of this condition, the same caller can be associated with different customer groups. The location of call origination determined the customer groups.

After BCS30, the customer group and NCOS can identify a caller. This condition occurs if the call, originated over an IBN offnet access trunk IBN ISUP NETINFO Translations-Canada only, generates a NETINFO parameter in the IAM. This parameter is for calls that originate over an IBN offnet access trunk.

An IBN offnet access trunk is one of the following trunks:

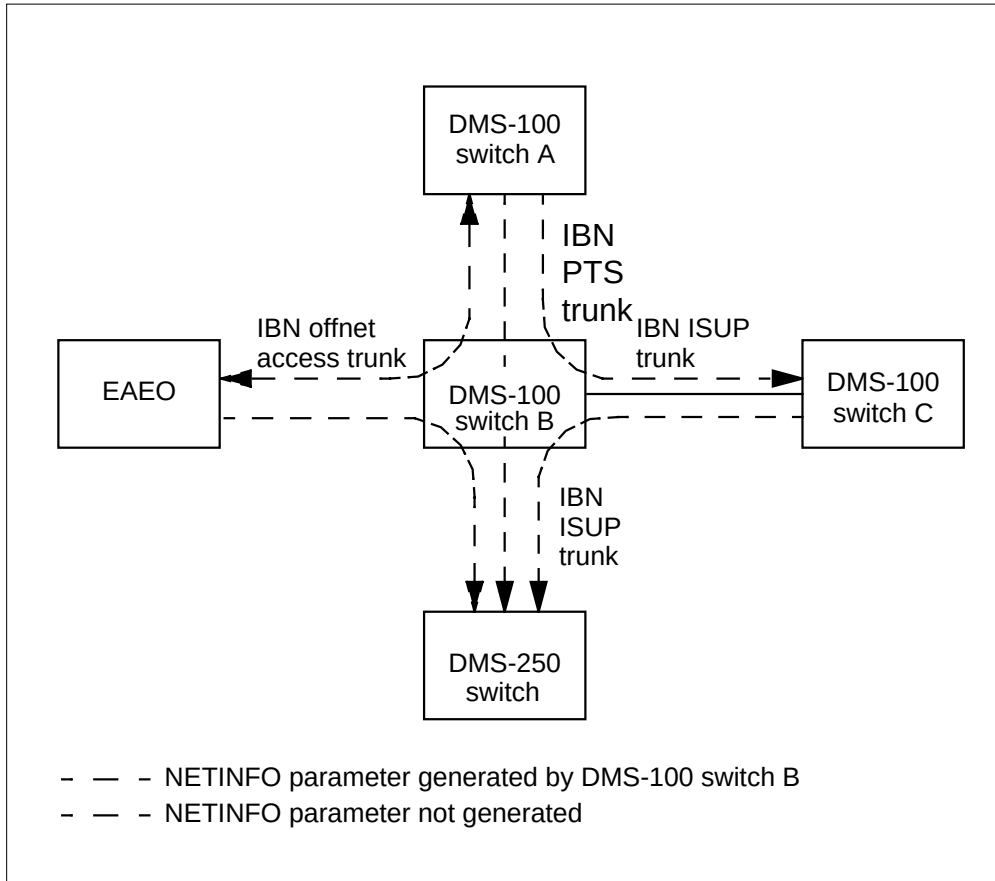
- feature group B (FGB)
- feature group D (FGD)

The customer group and NCOS can identify a caller if the call originated over an IBN PTS FGD trunk in a stand-alone configuration. The IBN ISUP NETINFO Translations-Canada only generates the NETINFO parameter for this condition.

When the system generates the NETINFO parameter for calls that originate over an IBN offnet access trunk appears in the following figure. A representative trunking arrangement appears.

IBN ISUP NETINFO Translations-Canada only (continued)

Generation of NETINFO parameter example



Calls can originate on the equal access end office (EAEO) and can terminate to DMS-100 switch A. When this condition occurs, the system does not generate the NETINFO parameter because generation of an ISUP IAM does not occur. Calls can originate on the EAEO and can terminate to DMS-100 switch C or to the DMS-250 switch. When this condition occurs, DMS-100 switch B generates the NETINFO parameter of the IAM. Calls can originate on DMS-100 switch A and can terminate to DMS-100 switch C or to the DMS-250 switch. When this condition occurs, DMS-100 switch B does not generate the NETINFO parameter of the IAM.

Identifying the caller

Most of the calls that originate over an IBN offnet access trunk require the dialing of an authorization code or a travel card number. This dialing identifies the caller to the network. A customer group and NCOS can have datafill against an authorization code of a caller through table AUTHCDE (Authorization Code). This datafill allows the customer group and NCOS to identify an authorization code and travel card caller.

IBN ISUP NETINFO Translations-Canada only (continued)

The following types of calls do not require the end user to dial an authorization code or travel card number. These calls originate over an IBN offnet access trunk:

- 800 inward wide area telephone service (INWATS)
- 700/900
- FGD pure
- destination only
- senderized DAT

For 800 INWATS, 700/900, and FGD pure calls, the customer group and NCOS can identify the caller. For destination only and senderized DAT calls, the customer group and NCOS cannot identify the caller.

When a caller dials an authorization code, the system maps customer group and NCOS from table AUTHCDE. The map occurs to the NETID, NETCGID, and NCOS fields of the NETINFO parameter. This map identifies the caller. For travel card, 800 INWATS, 700/900, and FGD pure calls, the system retrieves the customer group and NCOS from internal tables. The system maps the customer group and NCOS to NETINFO fields.

Exceptions

Destination only dialing plans allow for destination digit collection only. Senderized DAT access does not require the dialing of an authorization code or travel card number.

Destination only and senderized DAT calls do not access table AUTHCDE to retrieve a customer group and NCOS. This condition is not like other types of calls that originate over IBN offnet access trunks. In this condition, the system takes the customer group and NCOS for these types of calls from table TRKGRP. The system maps the customer group and NCOS to NETINFO fields NETID, NETCGID and NCOS. The system generates the NETINFO parameter. For this condition, the customer group and NCOS do not identify the caller. Other features that use the customer group and NCOS cannot receive the accurate customer group and NCOS of the caller.

For example, the Calling Number and NCOS Display on Attendant Console feature uses information in the NETINFO parameter. Use of this information determines the customer group of the originator. The originating party can belong to the same customer group as the attendant. When this condition occurs, specified information appears. If the originating party and the attendant belong to different customer groups, other information appears.

IBN ISUP NETINFO Translations-Canada only (continued)

For destination only or senderized DAT calls, the customer group that NETINFO fields NETID and NETCGID determine is not the customer group of the originator. The customer group is the customer group of the incoming trunk group. A caller can appear in the same customer group as the attendant when the call originated from one location. The call can appear in a different customer group when the call originated from another location.

Failure to datafill customer group and NCOS

Customer groups and NCOSs, must have the following datafill to identify callers:

- authorization codes
- travel card numbers
- N00 numbers
- automatic number identification (ANI) numbers

As with destination only and senderized DAT calls, this condition can affect other features.

Failure to obtain network information

When building the NETINFO parameter, the internal customer group maps to a NETID and NETCGID through table CUSTNTWK. Datafill in table CUSTNTWK make sure this mapping does not occur. When this condition occurs, the system does not generate the NETINFO parameter.

Call scenario matrix

Where the system obtains the customer group and NCOS in use for translations for six different call examples appears in the following table.

Call scenario matrix

Call scenario	1	2	3	4	5	6
Is option NETXLA assigned?	No	Yes	Yes	Yes	Yes	Yes
Is NETINFO parameter received?	N/A	Yes	No	Yes	Yes	Yes
Do NETID and NETCGID map to customer group?	N/A	Yes	N/A	No	Yes	Yes
Is option COSMAP entered?	N/A	Yes	N/A	N/A	No	Yes
Does network NCOS map to internal NCOS?	N/A	Yes	N/A	N/A	N/A	No
Result	A	B	A	C	D	D

IBN ISUP NETINFO Translations-Canada only (continued)

The four possible translations results in the preceding table appear in the following list:

- Result A—The customer group and NCOS are from the incoming trunk group data.
- Result B—The system maps the NETID, NETCGID, and NCOS fields of the NETINFO parameter to an internal customer group and NCOS. The system maps the fields through tables CUSTNTWK and COSDATA.
- Result C—The system routes the call to VACT treatment.
- Result D—The system maps the NETID and NETCGID fields of the NETINFO parameter to an internal customer group. The system maps the fields through table CUSTNTWK. Use of the NCOS of the NETINFO parameter occurs as the internal NCOS.

Translations table flow

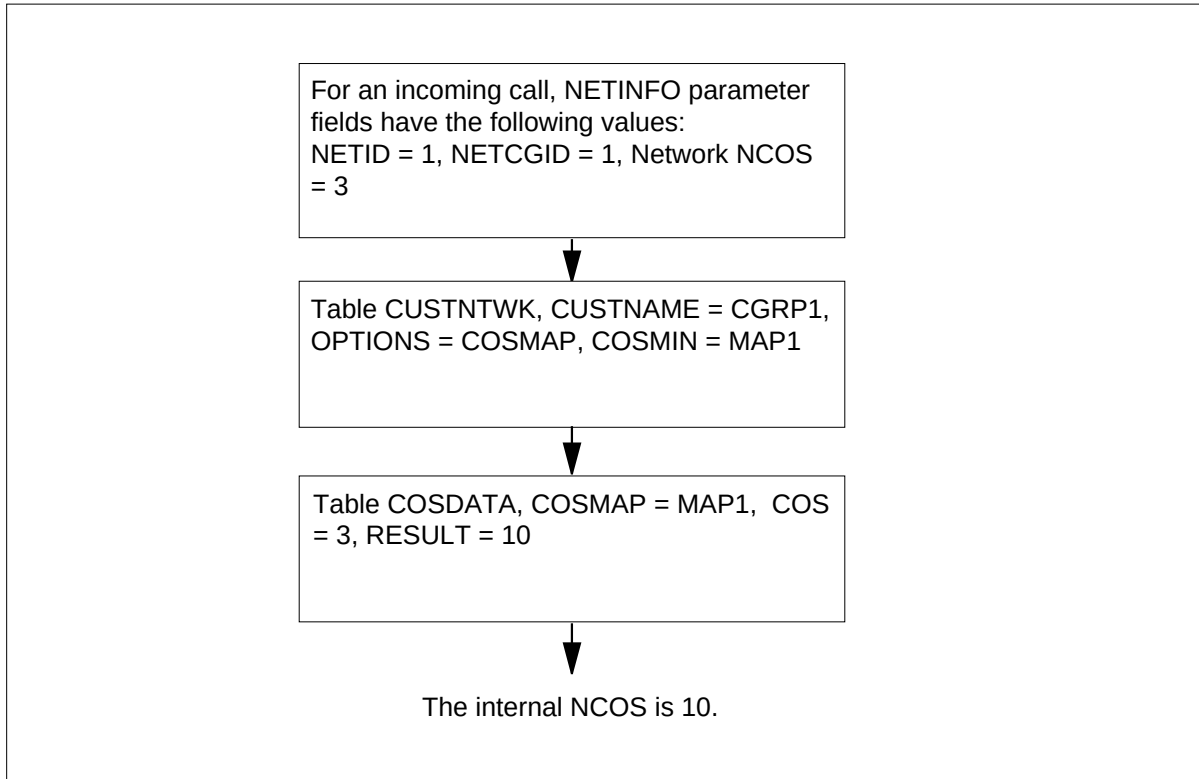
Descriptions of the IBN ISUP NETINFO Translations-Canada only translations tables appear in the following list:

- Table CUSTNTWK associates a specified network name with a customer group. Option COSMAP indicates that network NCOSs are to map to internal NCOSs.
- Table COSDATA contains the mapping information for NCOSs. For this example, network NCOS 3 maps to internal NCOS 10.

The IBN ISUP NETINFO Translations-Canada only translation process appears in the following flowchart.

IBN ISUP NETINFO Translations-Canada only (continued)

Table flow for IBN ISUP NETINFO Translations-Canada only



The datafill in the flowchart appears in the following table.

Datafill example for IBN ISUP NETINFO Translations-Canada only

Datafill table	Example data
CUSTNTWK	CGRP1 NET1 1 (COSMAP MAP1 MAP2) \$
COSDATA	MAP1 3 10

Limits

The following limits apply to IBN ISUP NETINFO Translations-Canada only:

- The system generates the NETINFO parameter only for IBN offnet access trunks when the network services software package is available.
- A DMS-100 switch can receive a NETINFO parameter that can be in use to set up translations. For this condition to occur, the DMS-250 switch must have feature packages NTXL07AA and NTXG30AA.

IBN ISUP NETINFO Translations-Canada only (continued)

- To allow a customer group and NCOS to identify a caller, the customer group and NCOS must have authorization codes in table AUTHCDE.
- Destination only and senderized DAT calls do not allow the customer group and NCOS to identify a caller.

Interactions

The following paragraphs describe the interactions between IBN ISUP NETINFO Translations-Canada only and other functionalities.

The following features interact with the IBN ISUP NETINFO Translations-Canada only.

- NETINFO translations. If the incoming trunk group has option NETXLA, the NETINFO parameter fields map to a customer group and NCOS. Use the fields to set up translations for the switch. The system can send an ESN NCOS as part of the called party address parameter. When this condition occurs, the ESN NCOS overrides the NCOS from NETINFO. If information in the NETINFO parameter determines translations, an ESN NCOS must not be part of the called party address parameter of the IAM.
- Satellite information. The first leg of a three-way call is the connection between the first two parties. The second leg of this call is the connection to the third party. The first and second legs of the call are separate until a possible transfer of the first leg to the second leg occurs. At this time, a reconfigure progress message (RPM) transfers to the originator and the terminator. This RPM updates each end with the NETINFO parameter of the other end. If the first leg uses a satellite link, the indication of this link does not apply to the second leg until the call transfer occurs. The second leg can use a satellite link because the system can route the second leg over a trunk. Because of this condition, at the time of transfer, a call can involve two satellite links.

Activation/deactivation by the end user

The IBN ISUP NETINFO Translations-Canada only does not require activation or deactivation by the end user.

Billing

The IBN ISUP NETINFO Translations-Canada only does not affect billing.

Station Message Detail Recording

The IBN ISUP NETINFO Translations-Canada only does not affect Station Message Detail Recording.

IBN ISUP NETINFO Translations-Canada only (continued)

Datafilling office parameters

The IBN ISUP NETINFO Translations-Canada only does not affect office parameters.

Datafill sequence

The tables that require datafill to implement IBN ISUP NETINFO Translations-Canada only appear in the following table. The tables appear in the correct entry order.

Datafill requirement for IBN ISUP NETINFO Translations-Canada only

Table	Purpose of table
TRKGRP (IBNT1) TRKGRP (IBNT2)	Trunk Group. This table contains information on trunk groups. IBN ISUP NETINFO Translations-Canada only introduces option NETXLA for IBNT1 and IBNT2 trunk group types.
TRKSGRP	Trunk Subgroup. This table contains information on trunk subgroups.
COSMAP	Network Class of Service Mapping. This table identifies class of service mappings.
COSDATA	Network Class of Service Data. This table contains a two-part key and a mapping result value. The two-part key contains a mapping name and an NCOS value.
NETNAMES	Internal Logical Network Names. This table contains internal logical network names.
CUSTNTWK	Customer Group Network. This table specifies the network name associated with a customer group. This table specifies a specified network customer group identifier in the network name in use for the customer group through the network.

Datafilling table TRKGRP

Table TRKGRP contains information on trunk groups. The IBN ISUP NETINFO Translations-Canada only introduces option NETXLA for IBNT1 and IBNT2 trunk group types.

Datafill for IBN ISUP NETINFO Translations-Canada only for table TRKGRP appears in the following table. The fields that apply to IBN ISUP

IBN ISUP NETINFO Translations-Canada only (continued)

NETINFO Translations-Canada only appear in this 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
GRPKEY		see subfield	Group Key. This field contains subfield CLLI.
	CLLI	CLLI	Common Language Location Identifier (CLLI). This subfield specifies the CLLI code assigned to the trunk group in Table CLLI. Enter the CLLI.
GRPINFO		see subfield	Group Information. This field contains several subfields. Only subfield GRPTYP applies to this feature.
	GRPTYP	IBNTI or IBNT2	Group Type. This subfield specifies the trunk group type. Enter IBNTI for an incoming trunk or IBNT2 for a two-way trunk. Note: If GRPTYP contains IBNTI or IBNT2, subfield OPTION requires datafill.
	OPTION	see subfields	Option. This subfield specifies options assigned to the trunk group. Enter NETXLA to indicate the information in the NETINFO parameter of the IAM must determine how translations is set up. Option NETXLA does not affect non-ISUP trunk groups.

Datafill example for table TRKGRP

Sample datafill for table TRKGRP appears in the following example.

MAP example for table TRKGRP

GRPKEY	GRPINFO
RCC0IBNIC	
IBNTI 0 ELO NCRT BNR 0 0 6196757000	ANSDISC 2 N N N N N N
N 0	
0 N N N N N NETXLA \$	
RCC0IBN2W	
IBNT2 0 ELO NCRT BNR 0 MIDL 0 6196757000	ANSDISC 2 N N N
N N	
N N N 0 0 N 0 0 0 0 N N N Y N N N N N	NETXLA \$

IBN ISUP NETINFO Translations-Canada only (continued)

Datafilling table TRKSGRP

Table TRKSGRP contains information on trunk subgroups.

Datafill for IBN ISUP NETINFO Translations-Canada only for table TRKSGRP appears in the following table. The fields that apply to IBN ISUP NETINFO Translations-Canada only appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table TRKSGRP

Field	Subfield or refinement	Entry	Explanation and action
SGRPKEY		see subfields	Subgroup Key. This field contains subfields CLLI and SGRP.
	CLLI	CLLI	Common Language Location Identifier. This subfield specifies the CLLI code assigned to the trunk group in Table CLLI. Enter the CLLI.
	SGRP	0 or 1	Subgroup. This subfield specifies the number assigned to the trunk subgroup. Enter 0 or 1.
SGRPVAR		see subfields	Subgroup Variables. This field contains several subfields. Only subfield SIGDATA applies to this feature.
	SIGDATA	ISUP	Signaling Data. This subfield specifies the signaling type for the subgroup. Enter ISUP.

Datafill example for table TRKSGRP

Sample datafill for table TRKSGRP appears in the following example.

MAP example for table TRKSGRP

SGRPKEY	CARDCODE	SGRPVAR
RCC0IBNIC 0	DS1SIG	
	ISUP IC SS7 F N THRL 0 UNEQ Q764 NIL DMSNODE \$	
RCC0IBN2W 0	DS1SIG	
	ISUP 2W SS7 F N THRL 0 UNEQ Q764 NIL DMSNODE CIC \$	

Datafilling table COSMAP

Table COSMAP (Network Class of Service Mapping) identifies class of service mappings. One entry is present for each different mapping. The entry

IBN ISUP NETINFO Translations-Canada only (continued)

contains a mapping name and correct data fields. Datafill must be in table COSMAP to specify all mapping names for use by this feature.

Datafill for IBN ISUP NETINFO Translations-Canada only for table COSMAP appears in the following table. The fields that apply to IBN ISUP NETINFO Translations-Canada only appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table COSMAP (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
NAME		1 to 16	Name. This field specifies the mapping name to identify a specified class of service mapping. Enter a 1- to 16-character name.
MAX		0 to 32767	Maximum Value. This field specifies the maximum value the system allows for the mapping result. Enter a value from 0 to 32767.

IBN ISUP NETINFO Translations-Canada only (continued)**Datafilling table COSMAP (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
SCREEN		ALLOW, DISALLOW, or DEFAULT	Type of Screening. This field specifies the type of screening the mapping must perform on the original NCOS. Enter one of the following: • Enter ALLOW to indicate that the system allows the NCOS values in table COSDATA for this mapping. The system screens out all other NCOS values. • Enter DISALLOW to indicate that the system does not allow NCOS values in table COSDATA for this mapping. All other NCOS values pass screening. • Enter DEFAULT to indicate that all NCOS values pass screening. This entry requires the entry of a value from 0 to 32,767 after DEFAULT. An example of this entry is DEFAULT 12.
VALTYPE		SAME, ANYTHING, CONST	Value Type. This field specifies the value type restrictions on mapping results the system allows in table COSDATA. Enter one of the following: • Enter SAME to indicate this mapping does not change any NCOS values. • Enter ANYTHING to indicate that the system allows all NCOS values. • Enter CONST to indicate that only the entry of a single (constant) value can occur for all mapping results in this mapping. This entry requires an entry of value from 0 to 32 767 after CONST. An example of an entry is CONST 10.

Datafill example for table COSMAP

Sample datafill for table COSMAP appears in the following example.

MAP example for table COSMAP

NAME	MAX	SCREEN	VALTYPE
BNRMAPSC	255	ALLOW	ANYTHING
BNRMAPTO	255	ALLOW	SAME

IBN ISUP NETINFO Translations-Canada only (continued)

Datafilling table COSDATA

Table COSDATA (Network Class of Service Data) contains a two-part key and a mapping result value. The two-part key contains a mapping name and an NCOS value.

Datafill for IBN ISUP NETINFO Translations-Canada only for table COSDATA appears in the following example. The fields that apply to IBN ISUP NETINFO Translations-Canada only appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table COSDATA

Field	Subfield or refinement	Entry	Explanation and action
COSMAP		1 to 16	Mapping Name. This field specifies the mapping name in Table COSMAP. Enter the 1- to 16-character name. This field is the first part of a two-part key.
COS		0 to 511	Class of Service. This field specifies the NCOS value to screen or alter. Enter a value from 0 to 511. This field is the second part of a two-part key.
RESULT		0 to 32,767	Mapping Result Value. This field specifies the class of service value to which the original NCOS value changes if the original NCOS passes screening. Enter a value from 0 to 32 767.

Datafill example for table COSDATA

Sample datafill for table COSDATA appears in the following example.

MAP example for table COSDATA

COSMAP	COS	RESULT
BNRMAPSC	0	0
BNRMAPSC	1	0
BNRMAPTOD	0	0
BNRMAPTOD	1	0

Datafilling table NETNAMES

Table NETNAMES contains internal logical network names.

Datafill for IBN ISUP NETINFO Translations-Canada only for table NETNAMES appears in the following table. The fields that apply to IBN

IBN ISUP NETINFO Translations-Canada only (continued)

ISUP NETINFO Translations-Canada only appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table NETNAMES

Field	Subfield or refinement	Entry	Explanation and action
NETNAME		1 to 32	Network Name. This field specifies the logical network name. Enter the 1-to 32-character name.
EXTNETID		1 to 32 767	External Network Identifier. This field specifies an identifier other switches use to identify the logical network. Enter a value from 1 to 32 767. Note: If NETNAME contains PUBLIC, the system sets EXTNETID to 0.

Datafill example for table NETNAMES

Sample datafill for table NETNAMES appears in the following example.

MAP example for table NETNAMES

NETNAME	EXTNETID	NETDIGS	NETOPTS
PUBLIC	0	0	\$
NET1	1	5	\$
NET2	2	5	\$

Datafilling table CUSTNTWK

Table CUSTNTWK can specify the network name associated with a customer group. This table can specify a specified network customer group. This customer group identifier is in use for the customer group through the network. The mapping names must be in table COSMAP before addition of option COSMAP occurs to an entry in table CUSTNTWK.

Datafill for IBN ISUP NETINFO Translations-Canada only for table CUSTNTWK appears in the following table. The fields that apply to IBN

IBN ISUP NETINFO Translations-Canada only (continued)

ISUP NETINFO Translations-Canada only appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CUSTNTWK

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		1 to 16 character name	Customer Name. This field specifies the customer group name. Enter the 1- to 16-character name.
NETNAME		1 to 32 character name from Table NETNAMES	Network Name. This field specifies the network name for the customer group. Enter the 1- to 32-character name from table NETNAMES.
NETCGID		0 to 4096	Network Customer Group Identifier. This field specifies the number of the network customer group identifier for the customer group. Enter a value from 0 to 4096. Note: For each value of field NETNAME, field NETCGID must be different.
OPTIONS		COSMAP	Options. This field specifies the options assigned to the customer group. Enter COSMAP to indicate that NCOS mapping must occur. Note: If OPTIONS contains COSMAP, subfields COSMIN and COSMOUT require datafill.
	COSMIN	see subfield	Class of Service Mapping In. This subfield specifies a mapping name from table COSMAP. Use of this mapping name and the network NCOS in the NETINFO parameter of the IAM occurs to index to table COSDATA. The value of field RESULT from table COSDATA is the internal NCOS.
	COSMOUT	see subfield	Class of Service Mapping Out. This subfield specifies a mapping name from table COSMAP. Use of this mapping name and the internal NCOS occurs to index to table COSDATA. The system takes the value of field RESULT from table COSDATA as the network NCOS. The system places the value in the NETINFO parameter of the IAM.

IBN ISUP NETINFO Translations-Canada only (end)

Datafill example for table CUSTNTWK

Sample datafill for table CUSTNTWK appears in the following example.

MAP example for table CUSTNTWK

CUSTNAM	NETNAME	NETCGID	DNREVLXLA OPTIONS
RESGRP	PUBLIC	0	\$
BNRGRP1	NET1	5	\$
BNRGRP2	NET2	(COSMAP BNRMAPSC BNRMAPTOD) 6	\$
			\$
		(COSMAP BNRMAPSC BNRMAPTOD)	\$

Tools for verifying translations

The IBN ISUP NETINFO Translations-Canada only does not use tools for verifying translations.

SERVORD

The IBN ISUP NETINFO Translations-Canada only does not use SERVORD.

ISUP Shared Trunking Enhancement

Ordering codes

Functional group ordering code: MDC00005

Functionality ordering code: does not apply

Release applicability

NA009 and later versions

Requirements

To operate, ISUP Shared Trunking Enhancement requires the following:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- Base ISUP, ISP70001
- MDC Standard, MDC00003

Description

ISUP Shared Trunking Enhancement is a continuation of feature AG1252, Multilocation Business Group I. The ISUP Shared Trunking Enhancement implements multilocation business groups (MBG) using the business group (BG) parameter. The BG parameter is in the integrated services digital network user part (ISUP) trunk signaling protocol.

This feature allows different switches to use the same MDC features. The ISUP IBN trunks link the switches to. The ISUP IBN trunks use public Common Channel Signaling 7 (CCS7) facilities to link the switches. The MBG provides feature transparency using CCS7 facilities to end users with multiple locations over different switches.

Operation

Note the following points about the call types that support ISUP Shared Trunking Enhancement:

- The calling party number and the called party number must be in the public numbering plan.
- Private numbers can be in use when each switch in the connection contains MBG software and datafill. The MBG software and datafill must be for the customer group associated with the call. The switch in the connection are originating, terminating and tandem.

If these conditions occur, a shared trunk can be in use for any leg of a call. This trunk operates with the current private facilities and other shared trunks.

ISUP Shared Trunking Enhancement (continued)

The methods in which an MBG call originates and routes appear in the following paragraphs.

MBG call origination

An MBG call can route over a public CCS7 facility with the identity of an associated customer group. This event occurs if the conditions for MBG subscription are met. The following conditions must occur to originate an MBG call:

- The customer group of the calling line must subscribe to MBG services. To perform this function, enter data in table BGDATA (Business Group Data). Specify a customer group in option CUSTGRP.
- The system must route a call to an ISUP plain old telephone service (POTS) trunk. The call cannot leave the MDC environment.

If these two conditions occur, the system identifies the call as an MBG call. The system inserts a business group (BG) parameter in the outgoing initial address message (IAM). These events allow the terminating office to complete the call. The content of the BG parameter follows:

- The line privilege information indicator (LPPI) is customer-defined LP present (1).
- The business group identifier (BGID) type is multilocation business group (0).
- The attendant status (AttSt) is no indication (0) unless the calling party is an attendant console (AC). If the calling party is an AC, the attendant status is attendant (1).
- The party selector is the calling number.
- Table BGDATA defines the BGID.
- The subgroup identifier is no indication (0).
- The internal network class of service (NCOS) of the calling line determines the line privilege (LP). If Direct Inward System Access (DISA) applies, field LP contains the NCOS associated with the DISA feature.

MBG call routing

The received IAM of an incoming call over an ISUP POTS trunk can contain a BG parameter. The receiving switch can have the software that can act on the parameter. If these two conditions occur, the system routes the call as an MBG call. The BGID specifies a customer group. The customer group and the datafill of the customer group in table BGDATA specify the translations

ISUP Shared Trunking Enhancement (continued)

and routing algorithms. The customer group and the datafill of the customer group specify the translations and routing algorithms to complete the call.

If the specification of data does not occur in table BGDATA, the incoming MBG call can complete. The system uses POTS translations and routing algorithms to complete the call. The BG parameter passes in the outgoing IAM. For a successful call, the called and calling party numbers must be in the public numbering plan.

The system can use the translation and routing data of the customer group and the LP of the BG parameter to route the call. The system uses this data when you enter data in table BGDATA against the customer group with option CUSTGRP selected. The system maps BGID to a current customer group through option CUSTGRP in table BGDATA.

The system can treat the LP as an NCOS. This condition occurs when you set the LP in the BG parameter to customer-defined LP present and option COSMAP is present. Table CUSTNTWK contains option COSMAP. The system uses the name in subfield COSMIN to map the LP to an internal NCOS through table COSDATA. Subfield COSMIN is in option COSMAP of table CUSTNTWK. The derived information identifies customer group-specified translators to complete the call. If option COSMAP in table CUSTNTWK is not present, the system records the contents of field LP as an internal NCOS. The BG parameter can contain the fixed LP. When this condition occurs, the ISUP Shared Trunking Enhancement uses a default NCOS value of 0 to continue the call.

Assigning MBG

The assignment of MBG occurs for each customer group through table BGDATA. An entry in table BGDATA can have option CUSTGRP with subfield MBG set to Y. In this event, the system records all lines in that customer group as MBG lines. If option CUSTGRP is not present, the system does not map a customer group to a business group. The MBG lines are not available.

If option CUSTGRP is present and you set subfield MBG to N, the system links the customer group and business group. The system does not record the lines in the customer group as MBG lines. The lines cannot use the MBG services.

If a customer group requires a business group for MBG and another service, set subfield MBG to Y. Option CUSTGRP contains subfield MBG. The MBG pricing controls must be met.

ISUP Shared Trunking Enhancement (continued)

MBG pricing controls

Pricing controls limit the number of MBG lines on a switch. The system records lines for a customer group as lines with MBG. This event occurs when the assignment of MBG to a customer group first occurs. The system uses the read-only subfield NUMLINES for option CUSTGRP to display the number.

The system uses tables IBNLINES and KSETLINE for the customer group that has an MBG feature to update the number of lines. The system updates the number of lines with each addition and deletion of MBG lines. In addition, the system records primary directory numbers (PDN) as MBG lines in table KSETLINE. The system does not record secondary directory numbers as MBG lines in table KSETLINE.

The deletion of MBG lines can occur from table BGDATA. In this event, the number of lines decreases by the number of MBG lines for the specified customer group. If the addition of MBG lines occurs, the system first determines if the change can occur. Office parameter MAX_MBG_LINES in table OFCOPT sets the maximum number of MBG lines. The change cannot occur if the addition exceeds the maximum number of MBG lines. See "Datafilling office parameters" in this feature description for information.

To add MBG to a customer group, perform one of the following procedures:

- add option CUSTGRP with subfield MBG set to Y
- change subfield MBG to Y for a current entry that has option CUSTGRP with subfield MBG set to N

To delete MBG, remove option CUSTGRP or set subfield MBG to N.

Datafilling MBG traffic

An ISUP POTS trunk can replace an ISUP IBN outgoing (IBNTO) or IBN two-way (IBNT2) trunk group type in a current route list. This ISUP POTS trunk can route MBG traffic. This event occurs when the customer group using that route associates with a BG parameter through table BGDATA. The calls that routed earlier over the ISUP IBN trunk group can route over the ISUP POTS trunk. The IAM of each of these calls contains a BG parameter that identifies the customer group of each call.

ISUP Shared Trunking Enhancement (continued)

Note the following points:

- You can add ISUP POTS trunks to an IBN route and allow calls to retain the customer group identity in several ways. You can specify ISUP POTS trunk group in two ways in table IBNXLA:
 - Set subfield ROUTE_SUBSEL to T. Set subfield TABID to OFRT.
 - Set subfield ROUTE_SUBSEL to S. Set subfield CLLI to the correct common language location identifier (CLLI).

If the system specifies table IBNRTE (IBN Route), the tuple can have a translations selector of N, S, T, or VFG.

- The call can continue as a POTS call. This event occurs if the switch at the terminating end of the trunk group does not support the BG parameter.
- Current IBN traffic can already route over ISUP POTS trunks. An ISUP POTS trunk group can handle overflow from an ISUP IBN trunk group. In this event, the BG parameter allows the overflow calls to continue to associate with the customer group.
- Only a subset of ISUP POTS trunks can carry MBG traffic. This subset includes the following trunk group types:
 - intertoll (IT)
 - toll incoming (TI)
 - toll outgoing (TO)
 - toll two-way (T2)

Public and private numbers over MBG trunks

The calling party number and the called party number must be in the public numbering plan. An intermediate switch that does not contain MBG software can route a private number in a method that is not correct. All switches in the connection can contain the MBG software and datafill associated with the customer group of the call. If this condition occurs, the system allows the use of private numbers. The switches in the connection can be originating, terminating and tandem.

An ISUP POTS trunk in a current route list in table IBNRTE can replace an ISUP IBN trunk. This method can cause the system to send private numbers over the public network. Additional datafill changes are a requirement to allow the system to send private numbers over the trunk. The originating switch requires changes to convert the private number to a public number. The terminating switch requires changes to convert the public number to a private number.

ISUP Shared Trunking Enhancement (continued)

The private number is a truncated version of the public number. Add the truncated digits to reconstruct the public number. Use table DIGMAN to add truncated digits. The conversion of the public number to a private number in the terminating switch reduces the changes to the translators of the switch. The conversion is the opposite of the operation that occurs at the originating switch. The conversion removes the added digits.

The terminating switch uses the following methods to convert a public number to a private number:

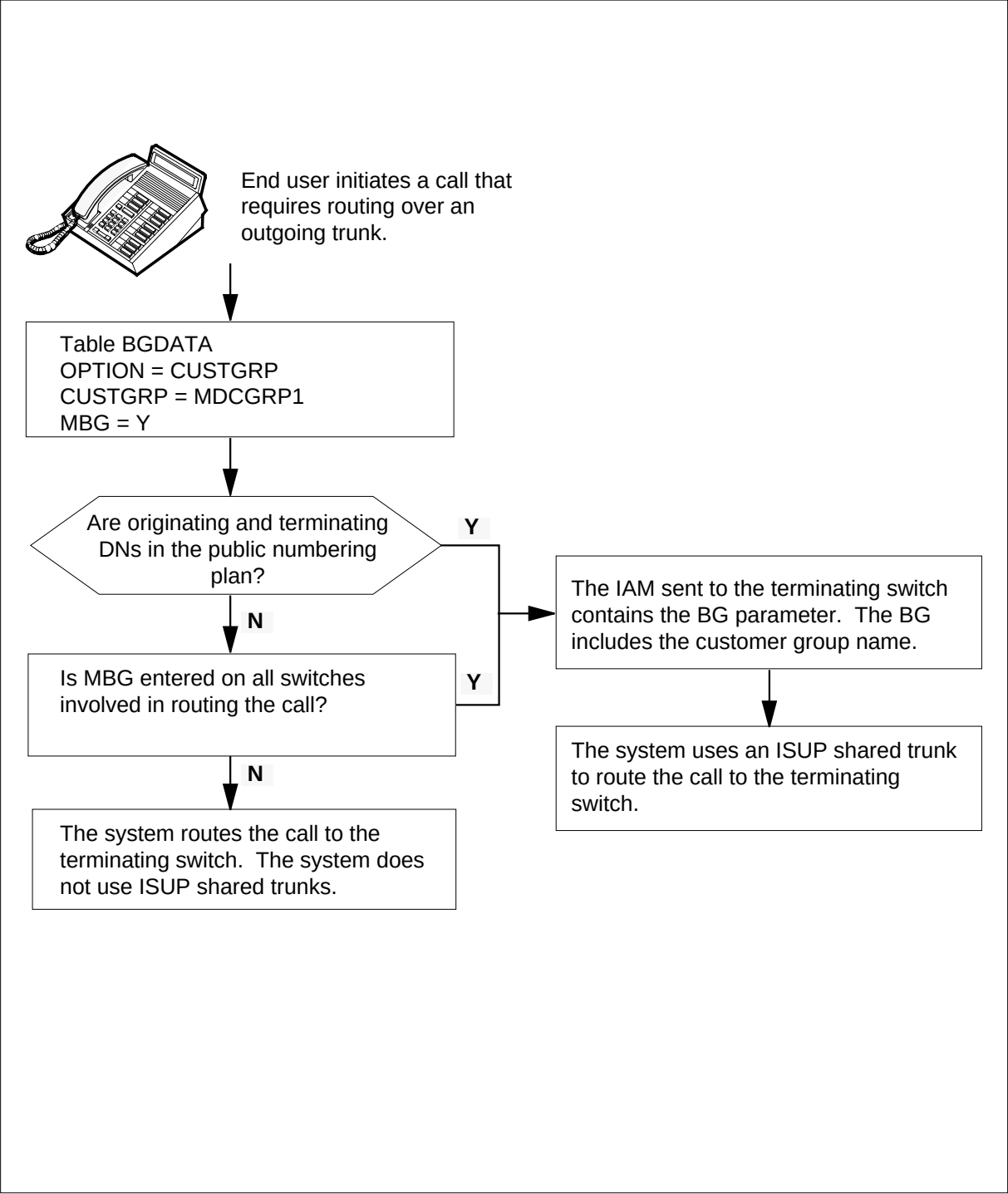
- Add option D01 of table BGDATA to prefix the incoming called party number with two digits. Use the preliminary translator PRELIMXLA to act on these two digits and convert the digit string to a private number. This number is equivalent to the D0 and D1 available in the datafill of ISUP IBN trunks.
- Add a new CDNTON (called number type of number) key to table RTECHAR. Access a preliminary translator to convert the incoming digit stream to a private number.

Translations table flow

The ISUP Shared Trunking Enhancement translations process appears in the following flowcharts. How the system uses table BGDATA in translations on an outgoing call appears in the first flowchart and data. The outgoing call is at the originating switch. How the system uses table BGDATA in translations on an incoming call appears in the second flowchart and data. The incoming call is at the terminating switch.

ISUP Shared Trunking Enhancement (continued)

Table flow for ISUP Shared Trunking Enhancement



ISUP Shared Trunking Enhancement (continued)

The datafill content of the flowchart appears in the following table. The customer group name is MDCGRP1.

Datafill example for ISUP Shared Trunking Enhancement

Datafill table	Example data
BGDATA	LOCAL 1123 (407 484 2 3) \$ (CUSTGRP MDCGRP1 Y 0 Y 2 60) \$

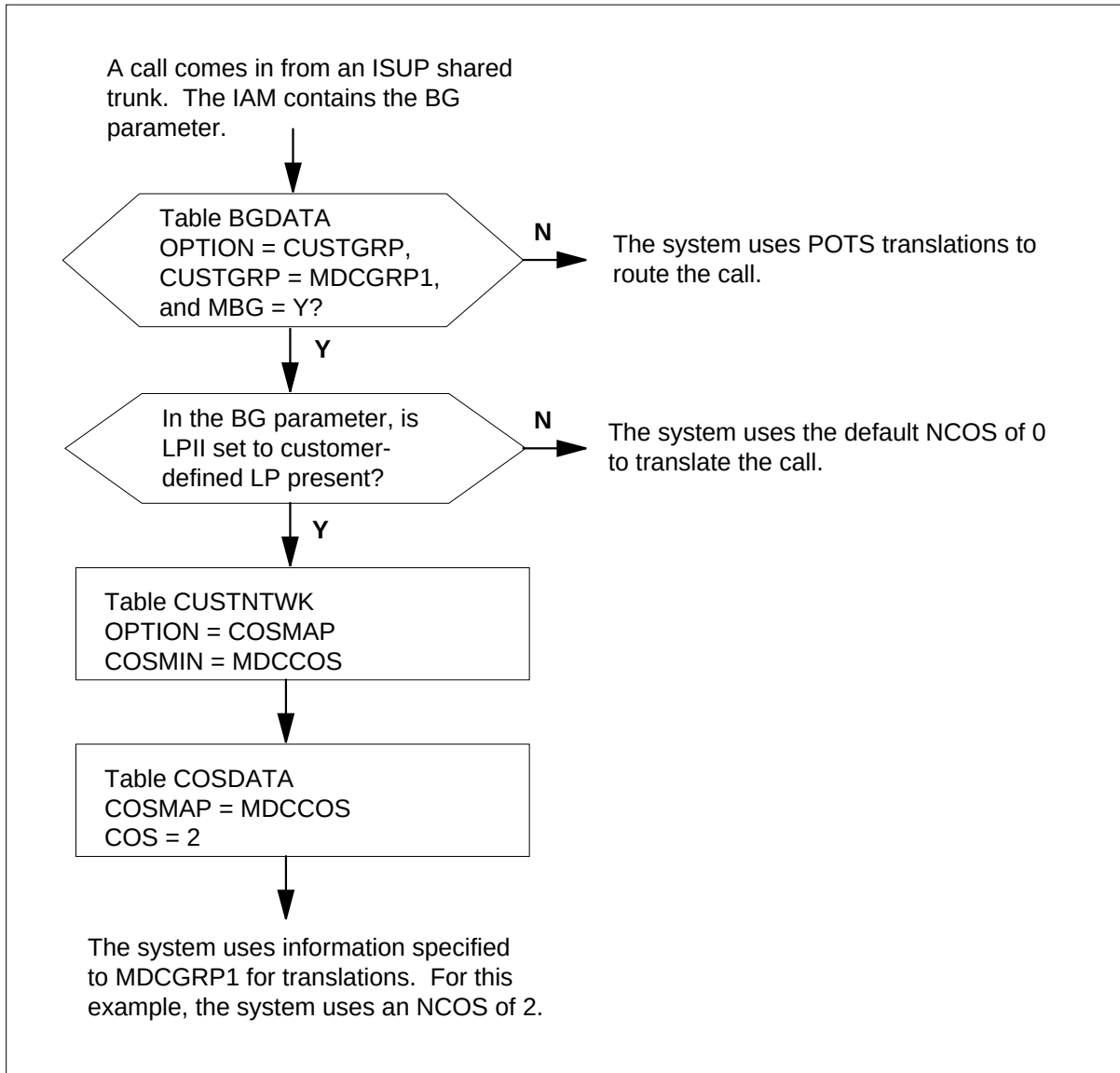
Table BGDATA (Business Group Data) stores business group-related information. Table BGDATA allows each customer group to have a set of parameters associated with MBG calls.

Table CUSTNTWK (Customer Group Network) specifies a network name associated with a customer group. In the flowchart that follows, option COSMAP determines if the system handles the LPII as an NCOS. The LPII is part of the BG parameter.

Table COSDATA (Network Class of Service Data) contains information about the NCOS. The key to table COSDATA contains a name and an NCOS number. In the flowchart that follows, table CUSTNTWK specifies the name. The BG parameter contains the NCOS number.

ISUP Shared Trunking Enhancement (continued)

Translations data flow for activating ISUP Shared Trunking Enhancement (incoming call from a shared trunk)



ISUP Shared Trunking Enhancement (continued)

The datafill content for the flowchart appears in the following table. The customer group name is MDCGRP1.

Datafill example for ISUP Shared Trunking Enhancement

Datafill table	Example data
BGDATA	LOCAL 1123 (407 484 2 3) \$ (CUSTGRP MDCGRP1 Y 0 Y 2 60) \$
CUSTNTWK	MDCGRP1 MDCNET 5 (PUBLIC NRXL A 1) \$ (COSMAP MDCCOS MDCCOS2) \$
COSDATA	MDCCOS 2 10

Limits

The following limits apply to ISUP Shared Trunking Enhancement:

- The ISUP POTS trunks that carry MBG traffic do not support the following features:
 - Customer Subgroups
 - Remote Access to Attendant Console
 - Attendant Control of Trunk Group Access
 - Attendant Trunk Group Busy Lamps
 - Off-hook and Call-back Queuing
 - SL-100 Network Attendant Services
- The ISUP POTS trunks that carry MBG traffic do not support the following IBN trunk group options:
 - CALLCHR
 - FACTYPE
 - LTID
 - NOACCOMP
 - WBL
 - ACD

Interactions

The actions between ISUP Shared Trunking Enhancement and other functionalities appear in the following paragraphs.

ISUP Shared Trunking Enhancement (continued)

Network Reason/Number/Name Display

An IBN7 network enhanced display is not available for the following:

- Executive Busy Override (EBO)
- Preset Conference and Automatic Call Distribution (ACD)
- Uniform Call Distribution (UCD)

For EBO, the name, number, and reason that the party activated EBO is not available over the IBN7 trunk. For Preset Conference, the conference reason is not available over the IBN7 trunk. For ACD and UCD, the group name of the ACD or UCD group is not available over the IBN7 trunk. When MBG inherits the functionality of IBN7 enhanced display, the MBG inherits these limits.

Network Automatic Call Distribution

Network Automatic Call Distribution (NACD) cannot use MBG trunks for overflow. When all servers on a switch are busy, NACD uses routes specified in table REMNACD (Remote NACD) for overflow. If the system selects a POTS trunk, the system does not use the trunk as an MBG trunk.

Features supported by MBG trunks

Additional network features that MBG trunks support include the following:

- Network Ring Again
- Network Attendant Control/Flash Recall
- Network Camp-on/Camp-on Recall
- Network Busy Verify Line
- Network Calling Line Identification and NCOS Display
- Network Station Message Detail Recording
- Network Message Waiting Indicator
- Automatic Call Back/Automatic Recall

The ISUP POTS trunks with MBG traffic do not support every feature before the ISUP IBN trunks support the feature. The MBG trunk supports some features in the same way as the ISUP IBN trunks support features. These features appear in the following list:

- Direct Inward System Access
- Time of Day Routing
- Expensive Route Warning Tone

ISUP Shared Trunking Enhancement (continued)

- Trunk Answer from Any Station
- Virtual Facility Groups

The proprietary parameter NETINFO sends additional information. This information can include the network name, customer group ID and class of service for the connected party to the far end. This action can affect features that use information in the BG and NETINFO parameters. Refer to "IBN ISUP NETINFO Translations" for details.

The MBG traffic that routes over an ISUP POTS trunk group uses some trunk group data of the ISUP POTS trunk. Table TRKGRP (Trunk Group) contains the ISUP POTS. This action affects fields TRAFSNO, PADGRP, and NCCLS and subfield DIR. If the terminating switch does not support ISUP Shared Trunking Enhancement, the switch cannot recognize the BG parameter. The system handles the call as a POTS call.

Activation/deactivation by the end user

ISUP Shared Trunking Enhancement does not require activation or deactivation by the end user.

Billing

Option BGMDR in table BGDATA produces billing records for stations that route to an MBG trunk. See "Datafill procedure for table BGDATA" in this feature description for details.

Note the following points about billing:

- The system only supports Nortel (Northern Telecom) formatted billing records.
- The record that the system generates for MBG calls has an F4 record code. This code is the same code for records that the system generates with options DDD or LAMA or the LCDR IBN station option. The value of the entry code differentiates the records. Add an MBG entry to table TOLLENTC (Entry Code) to specify an MBG value.
- The system generates multilocation business group billing records with any other billing records.

Station Message Detail Recording

ISUP Shared Trunking Enhancement can affect Station Message Detail Recording (SMDR). See the data schema table BGDATA in this feature description for details.

ISUP Shared Trunking Enhancement (continued)

Datafilling office parameters

Office parameter MAX_MBG_LINES controls the upper limit of MBG lines. The default value of this parameter in table OFCOPT is 1. This value allows the addition of a maximum of 99 MBG lines. Table OFCOPT is a read-only table. Only authorized Nortel personnel can change this parameter.

The office parameters used by ISUP Shared Trunking Enhancement appear in the following table. Refer to the *Office Parameters Reference Manual* for additional information about office parameters.

Datafill procedure for MAX_MBG_LINES

The following procedure identifies the datafill for MAX_MBG_LINES. This parameter specifies the maximum number of MBG lines allowed. Nortel personnel enter data in this table.

Office parameters by ISUP Shared Trunking Enhancement

Table name	Parameter name	Explanation and action
OFCOPT	MAX_MBG_LINES	Office Option table. Specifies the number of MBG lines allowed in the office in units of 100. Enter a value from 0 to 1000. The default value is 1.

Datafill sequence

The tables that require datafill to implement ISUP Shared Trunking Enhancement appear in the following table. The tables appear in the correct entry order.

Datafill requirements for ISUP Shared Trunking Enhancement

Table	Purpose of table
BGDATA	Business Group Data table. This table stores information for multi-switch business groups (MBGs).

ISUP Shared Trunking Enhancement (continued)

Datafilling table BGDATA

Table BGDATA can define and store a set of parameters for each BG to complete an MBG call. Descriptions of these parameters and the default values of these parameters follow.

- CUSTGRP. This option links a BG to an current IBN customer group. If selection of this option occurs in table BGDATA, the following three subfields require datafill:
 - CUSTGRP. This subfield specifies the name of the current IBN customer group linked to the BG.
 - MBG. This subfield specifies if this BG-to-customer-group link is for MBG services or for other services that can require a BGID. The correct entries are Y and N.
 - NUMLINES. This subfield specifies the number of primary directory numbers (PDN) in the customer group. The system enters data in this subfield. You cannot change this data.
- BILLDN. This option specifies a billing directory number (DN) for all calls originating from MBG trunks. These trunks contain the associated BG parameter. This option applies only when table BGDATA specifies option CUSTGRP. This option does not have a default value.
- BGMDR. This option specifies that the system generates business group message detail recordings (BGMDR) for all calls that originate from a line and terminate to an MBG trunk. This option applies only when table BGDATA specifies option CUSTGRP. The value for option BILLDN does not appear in these records. The default value is N.
- DSR. This option specifies trunk distinctive ringing (DSR) for all calls originating from MBG trunks. These trunks contain the associated BG parameter. This option applies only when table BGDATA specifies option CUSTGRP. The default value is N.
- SMDR. This option allows SMDR for calls originating from MBG trunks that contain the associated BG parameter. This option applies only when table BGDATA specifies option CUSTGRP. The default value is N.
- NUMDIGS. This option specifies the number of location digits used for the customer group. This option applies only when table BGDATA specifies option CUSTGRP.
- FACTYPE. This option allows the customer group to use special billing. This option applies only when table BGDATA specifies option CUSTGRP.
- FIXPRIV. This option sets the LPII field to Fixed Line Privileges and the Line Privileges field to 00 for information of each party in the BG parameter. The NCOS is not in the message.

ISUP Shared Trunking Enhancement (continued)

Datafill for ISUP Shared Trunking Enhancement for table BGDATA appears in the following table. The fields that apply to ISUP Shared Trunking Enhancement appears in this table. See the data schema section of this document for a description of the other fields.

Datafilling table BGDATA (Sheet 1 of 5)

Field	Subfield or refinement	Entry	Explanation and action
BGID		see subfields	Business group identifier. This field contains subfields LOCATION and GRPNUM. This entry is a single-line entry.
	LOCATION	LOCAL	Location. This subfield specifies the location of the business group with MBG assigned. Enter LOCAL.
	GRPNUM	0 to 4 194 303	Group number. This subfield specifies the business group with MBG assigned. Enter a value from 0 to 4 194 303.
BGXLA		see subfields	Business group translations. This field contains subfields AREACODE, OFCCODE, XFERCNT and MBGCODE. This entry is a single-line entry.
	AREACODE	3-digit code	Area code. This subfield specifies the serving numbering plan area. Enter the 3-digit code.
	OFCCODE	1- to 7-digit code	Office code. This subfield specifies the office code. Enter the 1- to 7-digit code.
	XFERCNT	0 to 8	Transfer count. This subfield specifies the number of digits to transfer when converting a public DN to an MBG DN. Enter a value from 0 to 8.
	MBGCODE	a maximum of 10 digits	MBG code. This subfield specifies the digits that replace the area and office codes. Enter a maximum of 10 digits.
OPTIONS		see subfield	Options. This field contains subfield OPTION.

ISUP Shared Trunking Enhancement (continued)

Datafilling table BGDATA (Sheet 2 of 5)

Field	Subfield or refinement	Entry	Explanation and action
	OPTION	CUSTGRP and BILLDN, BGMDR, DSR, FACTYPE, NUMDIGS, SMDR, FIXPRIV	<i>Option.</i> This subfield specifies the option assigned to a business group. Enter CUSTGRP and any other option. Enter CUSTGRP to associate a current IBN customer group with the business group. Enter data in refinements CUSTGRP, MBG, NUMLINES, INTRAGRP, LSCFN, and LSCINCPT. Note: If the BGID is LOCAL 1 and you enter data in option CUSTGRP, the following message appears: WARNING: LOCAL 1 IS RESERVED FOR PUBLIC NETWORK IDENTIFIER. THE CUSTGRP OPTION SHOULD NOT BE ASSIGNED TO LOCAL 1. Enter BILLDN to specify the billing DN of MBG calls. Enter data in refinement DN. Enter BGMDR to specify that the system must generate BGMDRs for all calls that originate from a line and terminate to an MBG trunk. Additional refinements do not require datafill. Enter DSR to allow the distinctive ringing option for calls originating from the specified customer group. Additional refinements do not require datafill.

ISUP Shared Trunking Enhancement (continued)

Datafilling table BGDATA (Sheet 3 of 5)

Field	Subfield or refinement	Entry	Explanation and action
			Enter FACTYPE to allow special billing for the specified customer group. Enter data in refinement FACTYPE. Enter FIXPRIV to set the LPRI field to Fixed Line Privileges and the Line Privileges field to 00. This entry is for each party information in the BG parameter. The NCOS is not in the message. Enter NUMDIGS to specify the number of location digits in use in the customer group network. Enter data in refinement NUMLDIGS. Enter SMDR to allow Station Message Detail Recording for calls originating from the specified customer group. Additional refinements do not require datafill.
	If OPTION is at CUSTGRP, enter data in refinements CUSTGRP, MBG, NUMLINES, INTRAGRP, LSCFN, and LSCINCPT.		
	CUSTGRP	alphanumeric (1 to 16 characters)	Customer group. This refinement specifies the name of the IBN customer group associated with the business group. Enter the customer group name in table CUSTENG first.
	MBG	Y or N	Multilocation business group service. This refinement specifies if all lines in the customer group can access the MBG services. Enter Y or N.
	NUMLINES	0 to 65 535	Number of lines. The number of primary DNs that range from 0 to 65 535 appears in this read-only refinement. The number of primary DNs are the number of lines in the customer group. Secondary DNs do not count as MBG lines.
	INTRAGRP	Y or N	Intragroup. This refinement specifies the action between the feature and the MBG trunk. Enter Y if the call is intragroup. Enter N if the call is not intragroup.

ISUP Shared Trunking Enhancement (continued)**Datafilling table BGDATA (Sheet 4 of 5)**

Field	Subfield or refinement	Entry	Explanation and action
	LSCFN	0 to 255	Line screening code flag number. This refinement specifies the line screening code associated with the MBG trunk. If the group of codes does not contain the code of a caller, the caller cannot make an MBG call. Enter a value from 0 to 255.
	LSCINCPT	0 to 63	Line screening code flexible intercept. This refinement specifies the treatment number used in table IBNTREAT when a line screening code blocks access to an MBG trunk. Enter a value from 0 to 63.
If OPTION is at BILLDN, enter data in refinement DN.			
	DN	1- to 11-digit value	Directory number. This refinement specifies the billing DN for all calls originating from MBG trunks that contain the associated BG parameter. Enter a 1- to 11-digit value.
If OPTION is at NUMDIGS, enter data in refinement NUMLDIGS.			
	NUMLDIGS	1 to 5	Number of location digits. This refinement specifies the number of location digits in the customer group. Enter a value from 1 to 5.

ISUP Shared Trunking Enhancement (continued)

Datafilling table BGDATA (Sheet 5 of 5)

Field	Subfield or refinement	Entry	Explanation and action
If OPTION is at FACTYPE, enter data in refinement FACTYPE.			
	FACTYPE	CCSA, TDMTT, FX, or ETS	Facilities (special billing) type. This refinement specifies the type of special billing for the customer group. Enter CCSA to generate a call code 021 record, structure codes 0001, 0002, and 0101. Enter ETS to generate a call code 085 record, structure codes 001, 002, and 0101. Enter FX to generate a call code 011 record, structure codes 0500, 0001, 0002, and 0101. Enter TDMTT to generate a call code 032 record, structure codes 0025 and 0125.

Datafill example for table BGDATA

Sample datafill for table BGDATA appears in the following example.

MAP example for table BGDATA

TABLE: BGDATA		BGXLA	
BGID		OPTIONS	
LOCAL	1233		
		(407 484 2 3) \$	
		(CUSTGRP MDCGRP1 Y 0 Y 2 60) \$	

Related tables

Several tables, like tables IBNXLA (IBN Translation) and IBNRTE, can require different datafill. These tables require different datafill to set up ISUP shared trunks to replace current private facilities. Feature networking can require that other tables be datafilled. This datafill is not affected when a customer group becomes an MBG.

ISUP Shared Trunking Enhancement (end)

Table IBNXLA

Table IBNXLA stores the data for the digit translation of calls from IBN agents. Specify an ISUP POTS CLLI or a tuple in table OFRT to access the ISUP POTS trunks. All MBG calls result from an ISUP POTS trunk that is chosen because of routes that use the translation datafill in this table.

To enter data in table IBNXLA results in an MBG call if an ISUP POTS trunk is chosen:

- routing through selector ROUTE/S directly to table CLLI
- routing through selector ROUTE/S to table OFRT or table IBNRTE
- routing through option NET/GEN/RTE to table OFRT or table IBNRTE
- routing through option NET/GEN/ESN
- routing through option NET/GEN/PVN
- routing through option NET/GEN/LOGNET
- routing through option NET/ESN
- routing through option NET/PVT

If the preceding data chooses a route that remains in the customer group environment, use the data as a shared trunk. The preceding action indicates that an ISUP POTS trunk must first be chosen.

Table IBNRTE

Table IBNRTE contains a set of route lists. The ISUP POTS trunks can be specified with IBN route selectors N, S, T, and VFG.

Tools for verifying translations

ISUP Shared Trunking Enhancement does not affect tools for verifying translations.

SERVORD

ISUP Shared Trunking Enhancement does not use SERVORD.

MBG Alternate Terminating Number Billing

Ordering codes

Functional group ordering code: MDC00005

Functionality ordering code: does not apply

Release applicability

BCS35 and later versions

Requirements

To operate, MBG Alternate Terminating Number Billing has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The MBG Alternate Terminating Number Billing feature allows operating companies to control the value written to the terminating number field of AMA records. The operating company can control this value for MBG calls that generate the called generic address parameter (Called GAP). These calls generate the Called GAP in the outgoing initial address message (IAM) of the ISDN User Part (ISUP) messaging for the call.

Without MBG Alternate Terminating Number Billing, the system obtains this field from the routing DN for the call. This field is not always a public directory number (DN) appropriate to the billing record.

A value in the terminating number field of an AMA record that is not correct can result from MBG calls to specified locations. These locations contain non-Direct Inward Dialable (non-DID) agents, like non-DID private branch exchanges (PBXs) and attendant consoles.

The MBG Alternate Terminating Number Billing provides a method to override this value with an alternate terminating billing number. You can derive this number from a value specified in datafill and the Called GAP of the call.

Alternate terminating billing numbers for MBG calls are specified for each location code. This process occurs through option ALTBTERM in Table Business Group Location (BGLOCN).

MBG Alternate Terminating Number Billing (continued)

Operation

The presence of option ALTBTERM in Table BGLOCN (Business Group Location) invokes the MBG Alternate Terminating Number Billing for each location code. The MBG III — Support of Private Numbering Plan (AG2555) introduced table BGLOCN in BCS34.

Option ALTBTERM can invoke the MBG Alternate Terminating Number Billing for a location code. In this occurrence, the system produces a new value for the terminating number field in the AMA record. The system produces this value for MBG calls to the location. A group of digits that the datafill specifies and the contents of the Called GAP on the outgoing call determine the new value.

When you enter the ALTBTERM option for a location in Table BGLOCN, enter data in two new associated subfields. The system uses these subfields with the Called GAP to determine the new value for the terminating number field. The AMA record of the call contains the terminating number field.

An event that requires MBG Alternate Terminating Number Billing is an MBG call to a specified location. The location is a non-DID PBX. Normally, the location routing DN that Table BGLOCN specifies is not a dialable public DN. The location routing DN is not appropriate for the terminating number field of the AMA record for the call. Through the MBG Alternate Terminating Number Billing, the system can obtain a correct alternate terminating billing number for the call. The system can insert this billing number in the AMA record.

Translations table flow

The MBG Alternate Terminating Number Billing does not affect translations table flow.

Limits

The following limits apply to MBG Alternate Terminating Number Billing:

- The alternate terminating number that the system obtains can be greater than 12 digits in length. This number appears truncated from the right in the terminating number field of the AMA record.
- The MBG call must use a translations selector that generates a Called GAP in the outgoing IAM of the ISUP messaging. If the system uses a translations selector that does not produce Called GAP, the feature cannot

MBG Alternate Terminating Number Billing (continued)

function. The system uses the following selectors in a Called GAP in the outgoing IAM:

- ROUTE/L and NET/LOC in table IBNXLA
- LOC in table IBNRTE

Note: For additional information about MBG translations selectors, refer to MBG III — Support of Private Numbering Plan.

- The MBG Alternate Terminating Number Billing applies to Local Automated Message Accounting (LAMA) that uses Bellcore format recording. This process does not apply to Central Automated Message Accounting (CAMA) or NT format recording.

Interactions

The MBG Alternate Terminating Number Billing does not have functionality interactions.

Activation/deactivation by the end user

The MBG Alternate Terminating Number Billing does not require activation or deactivation by the end user.

Billing

Feature AG2555 MBG III — Support of Private Numbering Plan defines billing for MBG calls through MBG Alternate Terminating Number Billing. The system can apply MBG Alternate Terminating Number Billing to the call codes and structure codes that AG2555 supports.

An example of an AMA record without MBG Alternate Terminating Number Billing appears in the following figure. An MBG call to a non-DID MBG agent location appears in this example.

AMA record without MBG Alternate Terminating Number Billing

```
*HEX ID:AA  STRUCTURE CODE:40500C  CALL CODE:006C  SENSOR TYPE:036C
  SENSOR ID:0613999C  REC OFFICE TYPE:036C  REC OFFICE ID:0613999C
  DATE:30107C  CLD PTY OFF-HK:0C  SERVICE FEATURE:000C  ORIG
NPA:807C
  ORIG NUMBER:5704723C  OVERSEAS IND:0C  TERM NPA:00306C
  TERM NUMBER:5809000C  CONNECT TIME:2255146C  ELAPSED
TIME:000000575C
  MODULE CODE:912C  GENERIC ADD PARM:00003224716C  MODULE CODE:911C
  TYPE OF MBG CALL:2C  MULTI BUSINESS GRP ID:00001000
  MBG LINE PRIVILEGES:045C  MODULE CODE:000C
```

MBG Alternate Terminating Number Billing (continued)

An example of an AMA record with MBG Alternate Terminating Number Billing, applied to the location code for the call, appears in the following figure. An MBG call to the same location that consists of a non-DID MBG agent appears in this example. A public DN that is correct for billing purposes appears in the Terminating Number field (TERM NUMBER) of the AMA record.

AMA record with MBG Alternate Terminating Number Billing

```
*HEX ID:AA  STRUCTURE CODE:40500C  CALL CODE:006C  SENSOR TYPE:036C
  SENSOR ID:0613999C  REC OFFICE TYPE:036C  REC OFFICE ID:0613999C
  DATE:30107C  CLD PTY OFF-HK:0C  SERVICE FEATURE:000C  ORIG
NPA:807C
  ORIG NUMBER:5704723C  OVERSEAS IND:0C  TERM NPA:00306C
  TERM NUMBER:5824716C  CONNECT TIME:2257946C  ELAPSED
TIME:000000325C
  MODULE CODE:912C  GENERIC ADD PARM:00003224716C  MODULE CODE:911C
  TYPE OF MBG CALL:2C  MULTI BUSINESS GRP ID:00001000
  MBG LINE PRIVILEGES:045C  MODULE CODE:000C
```

Station Message Detail Recording

The MBG Alternate Terminating Number Billing does not affect Station Message Detail Recording.

Datafilling office parameters**Datafill procedure for CRS_SUBRU_POOL1_SIZE**

Office parameter CRS_SUBRU_POOL1_SIZE controls the provisioning for the extension block pool. The system requires an extension block from this pool to generate several AMA structures.

MBG Alternate Terminating Number Billing (continued)

The office parameters that MBG Alternate Terminating Number Billing uses appear in the following table. For additional information about office parameters, refer to *Office Parameters Reference Manual*.

Office parameters by MBG Alternate Terminating Number Billing

Table name	Parameter name	Description
OFCENG	CRS_SUBRU_POOL1_SIZE	<i>Office Engineering Table</i> Specifies the provisioning of the CRS_SUBRU_POOL1_SIZE extension block pool. Enter a value that the calculation from the <i>Office Parameters Reference Manual</i> determines.

Datafill sequence

The tables that require datafill to implement MBG Alternate Terminating Number Billing appear in the following table. The tables appear in the correct entry order.

Datafill requirements for MBG Alternate Terminating Number Billing

Table	Purpose of table
BGLOCN	Business Group Location Table. The system uses this table in MBG call processing. Use of this table maps the location code of a private dial plan of a customer to a correct public routing DN.

Datafilling table BGLOCN

The MBG Alternate Terminating Number Billing adds option ALTBTERM with subfields TERMNUM and AREPDIGS to the table. The system uses these subfields to generate an alternate terminating billing number in the AMA record of MBG calls. These MBG calls have GAP to this location code.

Datafill for MBG Alternate Terminating Number Billing for table BGLOCN appear in the following table. The fields that apply to MBG Alternate

MBG Alternate Terminating Number Billing (end)

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

Datafilling table BGLOCN

Field	Subfield or refinement	Entry	Description
OPTIONS		ALTBTERM	Options. This field specifies that MBG calls to the location code that the tuple specifies use MBG Alternate Terminating Billing. Enter ALTBTERM.
	TERMNUM	0 to 18 digits	Terminating Number. This subfield contains a digit string that the system uses with digits from the Called GAP. The system uses these digits to produce a new value for the terminating number field of the AMA record for the call. Enter the digit string you require. This digit string can be from 0 to 18 digits in length.
	REPDIGS	0 to 15	Replaced Digits. This subfield specifies the number of digits of the TERMNUM value, from the right. The system replaces this value with the corresponding digits from the Called GAP. Enter a value from 0 to 15.

Datafill example for table BGLOCN

Sample datafill for table BGLOCN appears in the following example.

MAP example for table BGLOCN

BGLOCNKY		ROUTEDN		REPDIGS
		OPTIONS		
BIGCORP1	337	7089999		4
		ALTBTERM	4168360000	4 \$

Tools for verifying translations

The MBG Alternate Terminating Number Billing does not use tools for verifying translations.

SERVORD

The MBG Alternate Terminating Number Billing does not use SERVORD.

MBG Enabling of Feature Networking

Ordering codes

Functional group ordering code: MDC00005

Functionality ordering code: does not apply

Release applicability

NA008 and later versions

Requirements

To operate, MBG Enabling of Feature Networking has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC Standard, MDC00003
- Base ISUP, ISP70001

Description

The MBG Enabling of Feature Networking allows the use of MDC networked features. Multilocation business group (MBG) plain old telephone service (POTS) and integrated services digital network user part (ISUP) calls use the following features:

- AC0263, Networked EBS Display
- AG0980, Network Name Display

Without MBG Enabling of Feature Networking present in a switching office, the system denies these features over MBG trunks.

Operation

Background

Networked features are features that operate between switching offices that POTS ISUP, IBN ISUP, or primary rate interface (PRI) trunks connect. These trunks provide signaling that allows network number, reason, and name display to operate between switching offices. Without this signaling, network number, reason, and name display operate between end users in the same switching office.

MBG Enabling of Feature Networking (continued)

For the system to consider a call to be an MBG call, the following conditions must occur:

- The originating agent must belong to a customer group that matches the business group identifier (BGID) in Table BGDATA (Business Group Data). The most recent retranslation must produce a customer group that matches the BGID in Table BGDATA.
- The system must translate the call through MBG translations.
- The system must route the call to a POTS ISUP trunk.
- The outgoing ISUP initial address message (IAM) must include the business group (BG) optional parameter.

Networking capabilities

The MBG Enabling of Feature Networking feature, purchased in feature package NTXR74AA, allows separate deployment capabilities. These capabilities are the customer group dial plan and shared trunking capabilities. The capabilities MBG software provides deploys separately from the feature networking capabilities MBG software provides.

The MBG software provides IBN customer groups with private virtual networking on POTS ISUP trunks. The MBG Enabling of Feature Networking basic transport can sell separately from feature networking.

POTS ISUP trunk types

The MBG software supports the following POTS ISUP trunk types:

- toll outgoing (TO)
- toll incoming (TI)
- toll two-way (T2)
- intertoll (IT)

IBN agent types

The MBG Enabling of Feature Networking supports the following IBN agents that operate in MBG POTS calls:

- Centrex agents like IBN line type, basic rate access functional sets (BRAFS), and attendant consoles (AC)
- PRI agents, which include switching offices that connect through private PRI trunks, like private branch exchanges (PBX) or other DMS Centrex nodes

MBG Enabling of Feature Networking (continued)

Control of feature networking

The MBG Enabling of Feature Networking controls access to network number, reason, and name display features for each switch. This condition affects the IBN agents that operate in MBG POTS ISUP calls on the switch.

Control of display elements

The MBG Enabling of Feature Networking controls the display of connected party numbers, names, and reason text to the Centrex or PRI agents. A connected party number or name identifies the originating and terminating agents on a call. Reason text supplies information about the state and progress of a call.

The MBG Enabling of Feature Networking feature controls the following display elements:

- calling number
- connected number
- redirecting number
- calling name
- connected name
- redirecting name
- call transfer reason
- call forward reason
- conference reason

Control of agents

The MBG Enabling of Feature Networking feature controls Centrex and PRI agents under the following conditions.

Centrex agents

The MBG Enabling of Feature Networking feature controls the display of numbers and reasons for feature AC0263, Networked EBS Display. This process does not affect the exchange of numbers and reasons between switching offices.

The MBG Enabling of Feature Networking feature controls the display of names for feature AG0980, Network Name Display. A switch that does not have MBG Enabling of Feature Networking does not send name queries. This action reduces ISUP messaging that is not necessary when display of connected party names is not required.

MBG Enabling of Feature Networking (continued)

PRI agents

For a PRI trunk agent, the DMS Centrex office sends name, number, and reason display information over the PRI trunk. The PBX or switching office that the PRI trunk serves can use this information for display purposes.

If the system denies feature networking, the following optional elements do not appear in outgoing PRI messages for MBG POTS ISUP calls:

- calling number
- redirecting number
- redirection reason
- connected number
- display parameter name

Note: This action does not affect information request parameters and display parameters with name queries.

Translations table flow

The MBG Enabling of Feature Networking feature does not affect translations table flow.

Limits

The following limits apply to the MBG Enabling of Feature Networking feature:

- The presence or absence of the MBG Enabling of Feature Networking feature does not affect calling number and network class of service (NCOS) display on ACs.
- This feature does not affect ISUP-to-ISUP tandem call conditions. The tandem office does not have control over the availability of networked features to an MBG POTS ISUP call.

Interactions

The MBG Enabling of Feature Networking feature interacts with the override for calling number delivery blocking (CNDBO) capability. If MBG Enabling of Feature Networking is present in the switch, the calling number appears. Activation of the CNDBO does not affect the display of the calling number.

Activation/deactivation by the end user

The MBG Enabling of Feature Networking does not require activation or deactivation by the end user.

MBG Enabling of Feature Networking (end)

Billing

The MBG Enabling of Feature Networking feature does not affect billing.

Station Message Detail Recording

The MBG Enabling of Feature Networking feature does not affect Station Message Detail Recording.

Datafilling office parameters

The MBG Enabling of Feature Networking feature does not affect office parameters.

Datafill sequence

The MBG Enabling of Feature Networking feature does not affect datafill.

Tools for verifying translations

The MBG Enabling of Feature Networking feature does not use tools for verifying translations.

SERVORD

The MBG Enabling of Feature Networking feature does not use SERVORD.

MBG Feature Networking Control

Ordering codes

Functional group ordering code: MDC00005

Functionality ordering code: does not apply

Release applicability

BCS35 and later versions

Requirements

To operate, MBG Feature Networking Control has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC Standard, MDC00003

Description

The MBG Feature Networking Control implements a group control mechanism for each customer. This feature implements this control mechanism for a subset of the networked features available to calls that use a Multilocation Business Group (MBG) service.

The MBG Feature Networking Control feature can control the following network features:

- network name display (NAME)
- network number/reason display (CLID).

The MBG Feature Networking Control feature allows the operating company to disable customer access to the network features. The operating company disables access for the MDC and PRI agents in an MDC customer group. The network features appear in the previous description. The disabling of these features applies to incoming and outgoing MBG calls that involve the selected agents.

The control of these network features for each customer group allows the operating company to offer an MBG dial plan to end-users. The operating company offers the dial plan separately from the networked features. The MBG dial plan uses shared ISDN User Part (ISUP) trunking.

A standard use example of MBG Feature Networking Control is the integration of an MBG-based service in a current customer facility. The integration occurs according to private IBN7 trunks. The operating company

MBG Feature Networking Control (continued)

provides trunking facilities and IBN7 networked features separately in these trunks.

When MBG Feature Networking Control is not present in the switch, the system can control feature networking for MBG calls for each switch. The presence of MBG Enabling of Feature Networking (AR0361) in the switch determines if the system controls feature networking.

When MBG Feature Networking Control is in the switch, networked features are allowed or disallowed for each customer group for MBG calls.

Note: This package controls network features on inter-switch MBG calls between associated MDC customer groups. This feature does not affect non-MBG calls.

Operation

The addition of option MBGDENY to Table CUSTNTWK establishes control of the CLID and NAME display features for a customer group. Option MBGDENY has two sub-options: options CLID and NAME.

The system accesses table CUSTNTWK during MBG translations at originating and terminating switches in an MBG call. Option MBGDENY can be in the tuple for a customer group in the call. When this condition occurs, the system applies the control that this package introduces.

The operation of this feature requires that the system suppress the display of CLID information. The system must not suppress the presence of this information in the ISUP messaging. This action restricts group control of the feature for each customer locally. Customer group A, with NAME and CLID denied, can operate in a call with a customer group B. Customer group B does not have deny options. In this occurrence, this action does not affect the CLID display in group B.

Determination of customer group

The rules to determine which customer group key references Table CUSTNTWK vary. The type of call determines the rules. A summary of the different conditions appears in the following list:

- MDC to MBG
Calls to an MBG shared ISUP trunk can originate from an MDC line. For these calls, the customer group always comes from the line value in Table IBNLINES or Table KSETFEAT.
- PRI to MBG

MBG Feature Networking Control (continued)

For calls to an MBG shared ISUP trunk that originate from a PRI trunk, the customer group is from the PRI trunk. If retranslations occurs before selection of the MBG trunk, this condition does not occur. Examples of a potential change to the customer group include retranslations through a VFG. Another example of a potential change is the use of an RX selector in Table IBNRTE. In these occurrences, the system uses the customer group name that results from the final retranslations.

- **MBG to PRI**

For calls from an MBG shared ISUP trunk that terminate to a PRI trunk, the customer group comes from the incoming BGID. The system cannot obtain the customer group if retranslations occur before the system selects the PRI trunk. Examples of a potential change to the customer group include retranslations through a VFG. Another example of a potential change is the use of an RX selector in Table IBNRTE. In these occurrences, the system uses the customer group name that results from the last retranslations.

Method of blocking for different agent types

The control of CLID and NAME display occurs differently for MDC agents and PRI trunks.

For MDC agents, the system blocks the display in MDC line translations for MBG calls that terminate to an MDC end user. These MBG calls terminate to an MDC end user in a customer group with option MBGDENY in Table CUSTNTWK.

For PRI trunks in an MDC customer group, MBG calls can have the system block the CLID and NAME information. The system blocks the information that the the system sends with the PRI SETUP or PRI NOTIFY message. These MBG calls terminate to a PRI trunk with option MBGDENY in Table CUSTNTWK.

This action involves the suppression of the following optional parameters in the outgoing PRI messaging:

- calling number
- redirecting number
- redirection_reason
- connected number
- display parameter (NAME)

MBG Feature Networking Control (continued)

Translations table flow

The MBG Feature Networking Control feature does not affect translations table flow.

Limits

The following limits apply to the MBG Feature Networking Control feature:

You can enter the MBG Feature Networking Control feature for an attendant console. In this occurrence, the use of sub-option CLID with MBGDENY does not have an effect. The system supports control of Network Name delivery.

Interactions

Descriptions of the interactions between MBG Feature Networking Control and other functionalities appear in the following paragraphs.

- *MBG Enabling of Feature Networking (AR0361).* The MBG Enabling of Feature Networking feature provides a mechanism for CLID and NAME display. This mechanism allows for separate installation of these displays from the basic transport functionality of MBG.

The MBG Enabling of Feature Networking feature can provide control of these network features for each switch.

The MBG Feature Networking Control feature adds to the functionality of MBG Enabling of Feature Networking. This feature increases the scope of control of CLID and NAME display to a group level for each customer.

The MBG Enabling of Feature Networking feature is not a requirement for MBG Feature Networking Control. This feature must be present in the switch for MBG Feature Networking Control. The MBG Feature Networking Control feature can be present in a load without MBG Enabling of Feature Networking (AR0361). This feature does not serve a function.

- *CLID Presentation Restriction Override (AJ1494).* The CLID Presentation Restriction Override feature (AJ1494) overrides the functionality of MBG Feature Networking Control. This feature causes the system to use the name and number display. The system uses this display if the MBG Enabling of Feature Networking (AR0361) feature is absent in the switch.

Refer to CLID Presentation Restriction Override for more information.

Activation/deactivation by the end user

The MBG Feature Networking Control feature does not require activation or deactivation by the end user.

MBG Feature Networking Control (continued)

Billing

The MBG Feature Networking Control feature does not affect billing.

Station Message Detail Recording

The MBG Feature Networking Control feature does not affect Station Message Detail Recording.

Datafilling office parameters

The MBG Feature Networking Control feature does not affect office parameters.

Datafill sequence

The tables that require datafill to implement the MBG Feature Networking Control feature appear in the following table. The tables appear in the correct entry order.

Datafill requirements for MBG Feature Networking Control

Table	Purpose of table
CUSTNTWK	Customer Network Table. The system uses this table to implement group control of CLID and NAME display for each customer. The system implements this control for originating and terminating MBG calls to the switch.

Datafilling table CUSTNTWK

Datafill for the MBG Feature Networking Control feature for table CUSTNTWK appear in the following table. The fields that apply to the MBG Feature Networking Control feature appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CUSTNTWK (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Description
OPTIONS		MBGDENY	Options. This field specifies the option to assign to the customer group. Enter MBGDENY.
If OPTIONS is MBGDENY, subfields NAME and CLID require datafill.			
Note: The system can use this subfield CLID with the NAME subfield. If you enter MBGDENY CLID, table control does not process the tuple.			

MBG Feature Networking Control (continued)**Datafilling table CUSTNTWK (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Description
	NAME	NAME	Name This subfield specifies that the system suppresses the display of network name information on incoming and outgoing MBG calls for the customer group. For this condition, enter NAME.
	CLID	CLID	Calling Line Identification This subfield specifies that the system suppresses network number and reason display information. The system suppresses this information on incoming and outgoing MBG calls for the customer group. For this condition, enter CLID.
Note: The system can use this subfield CLID with the NAME subfield. If you enter MBGDENY CLID, table control does not process the tuple.			

Datafill example for table CUSTNTWK

Sample datafill for table CUSTNTWK appears in the following example.

MAP example for table CUSTNTWK

CUSTNAME	NETNAME	NETCGID	DNREVLXLA OPTIONS
F38075704BIBN	F3807IBN	8	
(NTWKRAG 47 30 5 31 2 30 ONNET) (CLID OFFNET)			
(MBGDENY CLID NAME) \$			

MBG Feature Networking Control (end)

Datafill rules for option MBGDENY

The effects of the possible combinations of the entry of data in subfields NAME and CLID appear in the following table. To enter data in these subfields, use option MBGDENY on call display.

Effect of option MBGDENY subfields on call display

Datafill	Effects
(MBGDENY \$ \$)	Use of the MBGDENY option requires a minimum of the subfields CLID or NAME to be present in datafill. Table control does not allow you to write this option combination.
(MBGDENY NAME \$)	The MBG calls for this customer group does not display network name information or send name queries on ISUP messaging.
(MBGDENY CLID \$)	This option is not correct. Enter the CLID subfield with the NAME subfield. Table control does not allow you to write this option combination.
(MBGDENY CLID NAME)	Network name/reason (CLID) display on MBG calls for this customer group is. This entry does not affect the exchange of name and reason display between the offices in the MBG. The MBG calls for this customer group does not display network name information or send name queries on ISUP messaging.

Tools for verifying translations

The MBG Feature Networking Control feature does not use tools for verifying translations.

SERVORD

The MBG Feature Networking Control feature does not use SERVORD.

MBG II - Support of IBN7 Trunk Features

Ordering codes

Functional group ordering code: MDC00005

Functionality ordering code: does not apply

Release applicability

NA008 and later versions

Requirements

The MBG II - Support of IBN7 Trunk Features has the following requirements to operate:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- Base ISUP, ISP70001
- MDC Standard, MDC00003

Description

The MBG II - Support of IBN7 Trunk Features allows networking features available before on private trunks (IBN7) to operate on public trunks if the end user subscribes to multilocation business group (MBG) services.

Operation

The MBG II - Support of IBN7 Trunk Features allows the following features to support MBG calls:

- Meridian Digital Centrex (MDC) station features
- attendant console features
- system call distribution features
- trunk features

MDC station features

The MBG II - Support of IBN7 Trunk Features supports the interaction of the following MDC station features with MBG:

- Automatic Dial-MBG II - Support of IBN7 Trunk Features supports MBG calls with the Automatic Dial feature. Automatic Dial allows a caller to press an assigned feature key to dial a directory number (DN) that receives many calls. An integrated services digital network (ISDN) user part (ISUP) plain old telephone service (POTS) trunk allows the caller to reach

MBG II - Support of IBN7 Trunk Features (continued)

the predetermined location. The caller can perform this action and retain customer group identity.

- Automatic Line-MBG II - Support of IBN7 Trunk Features supports MBG calls with the Automatic Line (AUL) feature. The AUL provides an automatic connection between a calling station that goes off-hook and a predetermined location. This connection uses an ISUP POTS trunk.
- Call Forwarding-MBG II - Support of IBN7 Trunk Features supports MBG calls with Call Forwarding (CF) into a public network. These MBG calls go through an MBG call.
 - Call Forwarding into a public network - If the system call forwards an incoming MBG call in the public network as a non-MBG call, the initial address message (IAM) does not contain a business group (BG) parameter. The IAM originates from the base station.
- Call Hold-MBG II - Support of IBN7 Trunk Features supports MBG calls with the Call Hold (CHD) feature. The CHD allows an end user of a 500/2500 set to hold one call for any length of time. The CHD allows the end user to originate another call.
- Call Park-MBG II - Support of IBN7 Trunk Features supports MBG calls with the Call Park (PRK) feature. The PRK allows end users to park an incoming call against the DN of the end user station. The end user can retrieve a parked call from a station on the same switch. The end user dials a feature access code. The end user dials the DN against which the system parked the call to perform this action.
- Call Pickup-MBG II - Support of IBN7 Trunk Features supports MBG calls with the Call Park (PRK) feature. The PRK allows end users to park an incoming call against the DN of the station of the end user. The end user can retrieve a parked call from a station on the same switch. The end user dials a feature access code. The end user dials the DN against which the system parked the call to perform this action.
- Call Waiting-MBG II - Support of IBN7 Trunk Features supports MBG calls with the Call Waiting (CWT) feature. The CWT allows a caller encountering a busy station to receive an audible ringing tone. At the same time, the busy station receives a call waiting tone. The user of the busy station can place the current call on hold. The user of the busy station can answer the incoming call.
- Executive Busy Override-MBG II - Support of IBN7 Trunk Features supports MBG calls with the Executive Busy Override (EBO) feature. The EBO allows a caller on an MDC line to gain access to a busy line. The caller performs this action if the line is on the same switch as one or both of the overridden parties.

MBG II - Support of IBN7 Trunk Features (continued)

- Flexible Station Controlled Conference-MBG II - Support of IBN7 Trunk Features allows a flexible station controlled conference leg to be an MBG call. This feature allows an end user of an MDC station to establish a conference with a maximum of 30 members.
- Held Call-MBG II - Support of IBN7 Trunk Features supports MBG calls with the Held Call feature. Held Call allows a Meridian business set (MBS) end user to hold an established call on any DN on the set. The end user can originate or receive another call on another idle DN on the set.
- Inspect-MBG II - Support of IBN7 Trunk Features supports MBG calls with the Inspect feature. Inspect allows an end user to display information associated with an incoming MBG call. The end user does not have to answer the call.
- Last Number Redial-MBG II - Support of IBN7 Trunk Features supports MBG calls with the Last Number Redial (LNR) feature. The LNR allows an end user to press one key to redial the last number dialed. The end user does not need to dial the complete sequence again.
- Make Set Busy-MBG II - Support of IBN7 Trunk Features supports MBG calls with the Make Set Busy (MSB) feature. The MSB makes a station busy to incoming callers. There are two types of MSB. These types are MSB All Call and MSB Intragroup (MSBI). The MSB All Call allows an end user to make a station busy to both internal and external callers. The MSB Intragroup allows an end user to make a station busy only to internal callers.
- Meet-Me Conference-MBG II - Support of IBN7 Trunk Features supports MBG calls with the Meet-Me Conference feature. This feature allows a maximum of 30 parties to dial a meet-me conference DN at a specified time. The parties can hold a conference. The first caller must belong to the same customer group that owns the meet-me conference DN. The MBG II - Support of IBN7 Trunk Features allows the first caller to dial the meet-me conference DN with an ISUP POTS trunk. The trunk must have a BG parameter that indicates the caller belongs to the meet-me conference customer group.
- Multiple Appearance Directory Number-MBG II - Support of IBN7 Trunk Features supports MBG calls with the Multiple Appearance Directory Number (MADN) feature. The MBG II - Support of IBN7 Trunk Features allows a member of a MADN group to originate and receive MBG calls. With MADN, one DN can belong to more than one MBS. A station in the MADN group can answer an incoming call to a DN.
- MBG II - Support of IBN7 Trunk Features supports the interaction of the MADN Hold and MADN Privacy Release features with MBG calls. The MADN Hold allows a MADN group member to hold a conference call. The MADN group member can resume the call from another MADN

MBG II - Support of IBN7 Trunk Features (continued)

group station. The MADN Privacy Release allows a single call arrangement (SCA) MADN group member to establish a conference call. This call occurs between an external party and all members in the SCA MADN group.

- Permanent Hold-MBG II - Support of IBN7 Trunk Features supports MBG calls with the Permanent Hold (PHOLD) feature. The PHOLD allows an end user of a 500/2500 set to put a connected party on hold. The end user can remain off-hook or go on-hook after the feature activates.
- Preset Conference-MBG II - Support of IBN7 Trunk Features supports incoming MBG calls with the Preset Conference feature. With Preset Conference, an end user of an MDC station can dial a code to establish a conference. After the end user dials the code, simultaneous ringing of selected conference members occurs.
- Speed Call Short-MBG II - Support of IBN7 Trunk Features supports MBG calls with the Speed Call Short (SCS) feature.
- Three-Way Calling-MBG II - Support of IBN7 Trunk Features supports MBG calls with the Three-Way Calling (3WC) feature. The call can include a third party. The call can transfer to the third party.

Attendant console features

The IBN7 attendant console (AC) features allow the attendant to supervise calls. The functionality of these IBN7 AC features depends on the customer groups of the agents involved in the calls.

The network information (NETINFO) parameter from the ISUP message associates the customer group of the agent with a network. The NETINFO parameter appears in the following figure.

MBG II - Support of IBN7 Trunk Features (continued)

Format of the NETINFO parameter

	8	7	6	5	4	3	2	1
1	Parameter code							
2	Party selection code				Spare			
3	Length							
4	NETID							
5								
6								
7	NETCGID							
8								
9	NCOS							

The NETINFO parameter transports the following:

- the network customer group identifier (NETCGID)
- the network class of service (NCOS)
- the network identifier (NETID)

The NETCGID is a network customer group identifier that the NETID identifies. The NETID identifies a virtual network that table NETNAMES (Internal Logical Network Names) defines.

As noted earlier, the NETINFO parameter from the ISUP message associates the customer group of the agent with a network. When an agent sends a NETINFO parameter, the agent associates with the customer group. The NETID and NETCGID of a NETINFO parameter in an incoming ISUP message must match the same customer group tables in table CUSTNTWK (Customer Group Network).

One network can associate with a customer group. The BG parameter can replace the NETINFO parameter when the BG parameter does not have a NETID. A customer group can associate with a private network and an IAM can occur with a BG parameter. This condition indicates that the system receives the call from the private network. If an IAM occurs without a BG parameter, the system receives the call from the public network. The BG parameter replaces the NETINFO parameter for the ISUP MBG network environment. The line privilege part of the BG parameter carries NCOS

MBG II - Support of IBN7 Trunk Features (continued)

information. The business group identifier (BGID) carries customer group information.

- AC Call Park-MBG II - Support of IBN7 Trunk Features allows an attendant to park and retrieve incoming ISUP MBG calls. This feature allows an attendant to park an incoming call against a DN on the same switch in the customer group. The attendant can park the call against the same switch as the AC. Any station in the customer group on the switch can retrieve the parked call.
 - Attendant Console Conference-MBG II - Support of IBN7 Trunk Features supports MBG calls with the Attendant Console Conference feature. Attendant Console Conference allows the attendant to establish a six-party conference.
 - NCOS and CLID display-For an ISUP call that terminates on an AC through IBN7 trunks, the system extracts the NCOS and customer group from the NETINFO parameter in the IAM. If the originator and the AC customer groups are the same, the NCOS of the originator appears to the AC. The calling line information display (CLID) of the originator appears to the AC. If the originator is not in the same customer group as the AC, the trunk common language location identifier (CLLI) appears.
 - For an MBG call that terminates on an AC, the system extracts the NCOS and customer group from the BG parameter. If the originator and the AC customer groups are the same, the NCOS in the BG parameter appears to the AC. The CLID in the IAM appears to the AC. If the originator is not in the same customer group as the AC, the trunk CLLI appears.
 - The functionality of MBG NCOS display to an AC is different than that of IBN7 NCOS display to an AC. For IBN7 NCOS display, the NCOS of the originator of the call appears to the AC. For MBG NCOS display, the NCOS of the last agent appears to the AC.
- Agent types include the following:
- virtual facility group (VFG)
 - Direct Inward System Access (DISA)
 - Integrated Business Network (IBN) station
- Network AC Busy Camp On-MBG II - Support of IBN7 Trunk Features supports MBG calls with the Network AC Busy Camp-On feature. The BG parameter carries the customer group information to the terminating switch.
 - An attendant can extend a call to a busy line in the same customer group over an ISUP IBN7 trunk. When this condition occurs, the Network AC Busy Camp-On feature allows the attendant to camp the

MBG II - Support of IBN7 Trunk Features (continued)

call on the busy line. Ringing automatically occurs when the busy party goes on-hook.

- Three-Way Call-MBG II - Support of IBN7 Trunk Features supports ISUP MBG calls with the Three-Way Call (3WC) feature. Any leg can be an MBG call.

System call distribution features

The following system call distribution features distribute incoming calls to agents in the same group. Idle agents answer the incoming calls.

- Automatic Call Distribution-MBG II - Support of IBN7 Trunk Features supports MBG calls with basic Automatic Call Distribution (ACD). The ACD operates like Uniform Call Distribution (UCD). If all agents are busy, the system places the incoming call in a UCD queue. When an agent becomes free, the system services the call in the queue.
- Hunt Group-MBG II - Support of IBN7 Trunk Features supports MBG calls with Hunt Group. Hunt Group allows an incoming call that encounters a busy line to search for an idle line in the group.
- Uniform Call Distribution-MBG II - Support of IBN7 Trunk Features supports MBG calls with UCD. The UCD allows the system to distribute an incoming call to a virtual DN to UCD agents. If all agents are busy, the system places the call in a UCD queue. When an agent become free, the system services the call in the queue.

The MBG II - Support of IBN7 Trunk Features supports the interaction of the following trunk features with MBG:

- RLT with No Third Party Interaction-MBG II - Support of IBN7 Trunk Features supports MBG calls with the RLT with No Third Party Interaction feature. The RLT with No Third Party Interaction provides trunk optimization when a third party is not involved.
- Direct Inward System Access-MBG II - Support of IBN7 Trunk Features supports MBG calls with the DISA feature. The DISA allows a caller to terminate on a DISA number and dial an access code to change the NCOS.
- Expensive Route Warning Tone-MBG II - Support of IBN7 Trunk Features supports MBG calls with the Expensive Route Warning Tone (ERWT) feature. The ERWT allows a caller to receive a warning tone as the caller places a call. The warning tone indicates that the route that the system sends the call over is marked as expensive.
- Extension Dialing-MBG II - Support of IBN7 Trunk Features supports MBG calls with the Extension Dialing feature. Extension dialing allows the identification of the terminator of a call. To identify the terminator, the

MBG II - Support of IBN7 Trunk Features (continued)

system outpulses the extension digits to the terminating office. To translate the incoming digits, the system uses customer group translation.

- Virtual Facility Group-MBG II - Support of IBN7 Trunk Features supports MBG calls with the VFG feature. The VFG defines virtual trunks. These trunks limit access to a trunk group. To limit access to the ISUP public trunk that carries MBG traffic, definition of a fixed number of trunks must occur. The system must route MBG calls through these trunks before the calls access the ISUP public trunk. A call that the system routed through an IBN7 VFG acquires the customer group and NCOS of the VFG.

Table TRKGRP-associated trunk features

You can enter data in table TRKGRP (Trunk Group) to activate some IBN7 trunk features. You cannot enter these features on the tuple of the ISUP public trunk that carries the MBG traffic.

An internal trunk group data structure identifies the characteristic of the trunk the MBG to the call-processing software uses. An example of an internal trunk group structure is the ISUP IBN7 trunk group data structure. When an ISUP POTS trunk is for MBG, the trunk attributes are different from the attributes for the ISUP POTS trunk. The ISUP POTS trunk is in table TRKGRP. The call-processing software can detect these differences.

The datafill fields that use table TRKGRP for MBG call processing appear in the following paragraphs. The following conditions can apply to data fields normally assigned to table TRKGRP that do not appear in the following paragraphs:

- the tables are in table BGDATA
- MBG does not require the tables
- the tables use the data in the internal MBG trunk data

See "Datafill procedure for table BGDATA" in this feature description for details.

- Operational measurement no circuit class-MBG II - Support of IBN7 Trunk Features makes sure the operational measurement (OM) entered

MBG II - Support of IBN7 Trunk Features (continued)

with the ISUP public trunk increases. The general no circuit class (GNCT) OM register field in the internal MBG trunk data is not in use.

— The system can send a call over an ISUP IBN7 trunk. The system does not recognize the call as an MBG call until the following conditions occur:

- the call has an ISUP public trunk
- the system builds the IAM

The originating party can begin to dial an MBG call before the system marks the call as an MBG type. When this condition occurs, the system attempts to peg a public trunk. If the system does not peg a public trunk, the system pegs the GNCT OM public trunk.

- Pad group - Pad groups allow attenuation to insert between the incoming and outgoing ends of the trunk. The MBG II - Support of IBN7 Trunk Features makes sure the pad group associated with the ISUP POTS trunk in table TRKGRP is in use. The default pad group in the internal MBG trunk data is not in use.
- Selection sequence for trunk - A selection sequence in table TRKGRP indicates the following are in use to select the trunk:
 - the most idle
 - the least idle
 - another algorithm

The entry of data for the incoming and outgoing ends of the trunk starts at the most idle trunks. The entry of data ends at the least idle trunks. This feature allows the system to select a trunk before the system recognizes a call as an MBG call.

- Traffic separation number - The data entered for field TRAFSNO is in use.

Translations table flow

The MBG II - Support of IBN7 Trunk Features does not affect translations table flow. See "ISUP Shared Trunking Enhancement" for information on the translations table flow for ISUP shared trunks.

Limits

The MBG II - Support of IBN7 Trunk Features does not have limits.

Interactions

The MBG II - Support of IBN7 Trunk Features interacts with the MBG III - Support of Private Numbering Plan feature. To support private numbers, the called number in the IAM contains a routing DN. The routing DN routes the

MBG II - Support of IBN7 Trunk Features (continued)

IAM to the switch to the switch that contains the private number. At the terminating switch, the BG parameter and the private number complete the call. The private number is in the generic address parameter (GAP).

Activation/deactivation by the end user

The MBG II - Support of IBN7 Trunk Features does not require activation or deactivation by the end user.

Billing

The MBG II - Support of IBN7 Trunk Features does not affect billing.

Station Message Detail Recording

The MBG II - Support of IBN7 Trunk Features does not affect Station Message Detail Recording.

Datafilling office parameters

The MBG II - Support of IBN7 Trunk Features does not affect office parameters.

Datafill sequence

The tables that require datafill to activate MBG II - Support of IBN7 Trunk Features appear in the following table. The tables appear in the correct entry order.

Datafill requirements for MBG II - Support of IBN7 Trunk Features

Table	Purpose of table
BGDATA	Table BGDATA (Business Group Data) stores specified information about business groups.

Datafilling table BGDATA

The datafill for MBG II - Support of IBN7 Trunk Features for table BGDATA appears in the following table. The fields that apply to MBG II - Support of

MBG II - Support of IBN7 Trunk Features (continued)

IBN7 Trunk Features appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table BGDATA (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS			Options. This field contains subfield OPTION.
	OPTION	CUSTGRP	Option. This subfield specifies the options assigned to the business group. Enter CUSTGRP. Enter data in the following refinements: • CUSTGRP • MBG • NUMLINES • INTRAGR • LSCFN • LSCINCPT Note: If the BGID is LOCAL 1 and you entered option CUSTGRP, the following message appears. The assignment can occur. WARNING: LOCAL 1 IS RESERVED FOR PUBLIC NETWORK IDENTIFIER. THE CUSTGRP OPTION SHOULD NOT BE ASSIGNED TO LOCAL 1.
	CUSTGRP	alphanumeric (1 to 16 characters)	Customer group. This subfield specifies the name of the IBN customer group to associate with the business group. Enter the customer group name in table CUSTENG first.
	MBG	Y or N	Multilocation business group services. This subfield specifies if all lines in the customer group have access to the MBG services. Enter Y or N.
	NUMLINES	0 to 65 535	Number of lines. This field is a read-only subfield. The number of primary DNs that range from 0 to 65 535 appear in this subfield. The number of DNs is the number of lines in the customer group. Secondary DNs are not MBG lines.

MBG II - Support of IBN7 Trunk Features (end)

Datafilling table BGDATA (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	INTRAGRP	Y or N	Intragroup. This subfield specifies the interaction of the feature with the MBG trunk. Enter Y if the call is intragroup. If the call is not intragroup, enter N.
	LSCFN	0 to 255	Line screening code flag number. This subfield specifies the line screening code associated with the MBG trunk. The caller cannot make an MBG call if the line screening code is not in the group of codes associated with the MBG trunk. Enter a value from 0 to 255.
	LSCINCPT	0 to 63	Line screening code flexible intercept. This subfield specifies the treatment number in use in table IBNTREAT. This number is in use when a line screening blocks access to an MBG trunk. Enter a value from 0 to 63.

Datafill example for table BGDATA

Sample datafill for table BGDATA appears in the following example.

MAP example for table BGDATA

TABLE: BGDATA		BGXLA	
BGID		OPTIONS	
LOCAL	1233	(407 484 2 3) \$	
		(CUSTGRP MDCGRP1 Y 0 Y 2 60) \$	

Tools for verifying translations

The MBG II - Support of IBN7 Trunk Features does not affect tools for verifying translations.

SERVORD

The MBG II - Support of IBN7 Trunk Features does not use SERVORD.

MBG III - Support of Private Numbering Plan

Ordering codes

Functional group ordering code: MDC00005

Functionality ordering code: not applicable

Release applicability

NA009 and up

Prerequisites

To operate, MBG III - Support of Private Numbering Plan has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- Base ISUP, ISP70001
- MDC Standard, MDC00003

Description

MBG III - Support of Private Numbering Plan enhances feature AG1984, ISUP Shared Trunking Enhancement, by supporting networked customer groups using a private numbering plan. (Refer to "ISUP Shared Trunking Enhancement" for details on this feature.) With this feature, an end user can define a private dialing plan using trunks within the public network. In addition, MBG III - Support of Private Numbering Plan also supports existing facilities, public or private.

Operation

With the MBG III - Support of Private Numbering Plan feature, the called party address (CDPA) in the initial address message (IAM) is always a public number. Any private addresses are transported in another parameter. Existing integrated services digital network user part (ISUP) IBN trunks do not ensure that the CDPA is public.

To support private numbers, the called number in the IAM contains a routing directory number (DN) to route the IAM to the switch where the private number resides. At the terminating switch, the business group (BG) parameter and the private number that are stored in the generic address parameter (GAP) are used to complete the call.

MBG III - Support of Private Numbering Plan (continued)

Interworking

The interworking between multilocation business group (MBG) trunks and other facilities is similar to the interworking between ISUP IBN trunks and those same facilities. The difference exists with the GAP and the BG parameter. Existing plain old telephone service (POTS) trunks do not contain the means to transport both the information in the CDPA parameter and the GAP.

The basic interworking principle is based on two assumptions:

- The behavior of existing facilities does not change as a consequence of MBG interworking; that is, IBN ISUP trunks use the network information parameter to carry information in the BG parameter.
- MBG trunk operation mimics IBN ISUP trunk operation. Changing MBG trunks to IBN ISUP trunks (and changing IBN ISUP trunks to MBG trunks) does not alter the operation of a call.

Originating agents

The following agents are supported as originators; that is, they can originate and dial a sequence of digits that results in an MBG trunk being selected as the outgoing agent. (The result is equivalent to an IBN ISUP trunk being selected.)

- Direct inward dialable (DID) MBG elements -Direct inward dialable MBG elements (MBGE) reside in a networked customer group and are Centrex lines.
- Non-DID MBGEs -Non-DID MBGEs are agents in a networked customer group that are not reachable from agents outside the customer group. MBG III - Support of Private Numbering Plan does not differentiate between non-DID MBGEs and DID MBGEs.
- POTS lines -These agents include custom local area signaling service (CLASS), Subscriber Services (SS), and POTS lines. They would select MBG trunks as a result of feature interworking.
- ISDN agents -Integrated services digital network (ISDN) agents that interact with ISUP trunks are specified by Bellcore document TR-TSY-00444, Switching Systems Requirements Support of ISDN Access Using ISDN User Part (Issue 2, November 1990), and apply to MBGEs.
- Non-DID private branch exchanges -Existing non-DID private branch exchanges (PBX) are connected to a DMS switch by PX or P2 trunks.
- Primary rate interface -Private branch exchange elements are connected to the public network by primary rate interface (PRI) trunks.

MBG III - Support of Private Numbering Plan (continued)

- Virtual Access to Private Networks -Virtual Access to Private Networks (VAPN) can be used to connect to an MBG trunk.
- Attendant consoles -Attendant consoles can be originating agents.

Translations table flow

The MBG III - Support of Private Numbering Plan translations process is shown in the flowcharts in Figures and. The first flowchart and data show the table flow for a call when a route is to be determined during translations (in other words, the translations route selector datafilled in Table IBNXLA is set to ROUTE/L). The second flowchart and data show the table flow for a call when the call is routed over an MBG ISUP trunk and the routing information includes the BG identification but not the GAP.

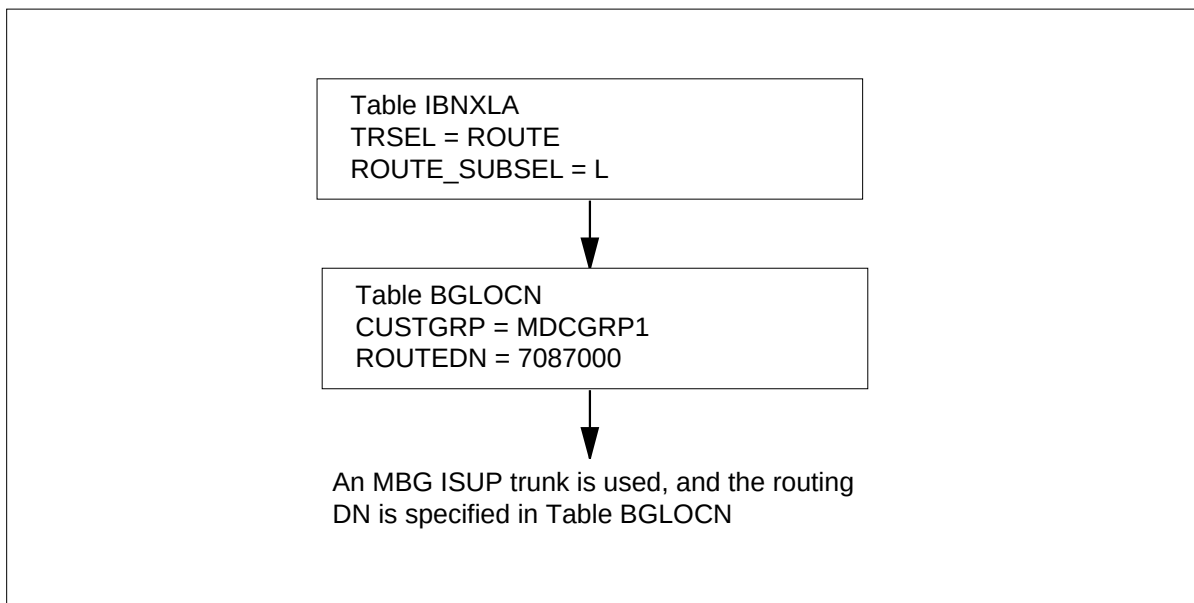
The MBG III - Support of Private Numbering Plan translations tables are described in the following list:

- Table IBNXLA (IBN Translation) enables an end user to datafill the destination node of a call. The routing DN associated with that call (from Table BGLOCN) is used in the public translators to determine a route.
- Table BGLOCN (Business Group Location) enables mapping of an arbitrary location code of the end user's network to DNs in the public numbering plan that can be used to establish a route to the switch serving that location code

The MBG III - Support of Private Numbering Plan translation process is shown in the flowchart that follows.

MBG III - Support of Private Numbering Plan (continued)

Table flow for MBG III - Support of Private Numbering Plan



The following table lists the datafill content used in the flowchart. The customer group name is MDCGRP1.

Datafill example for MBG III - Support of Private Numbering Plan

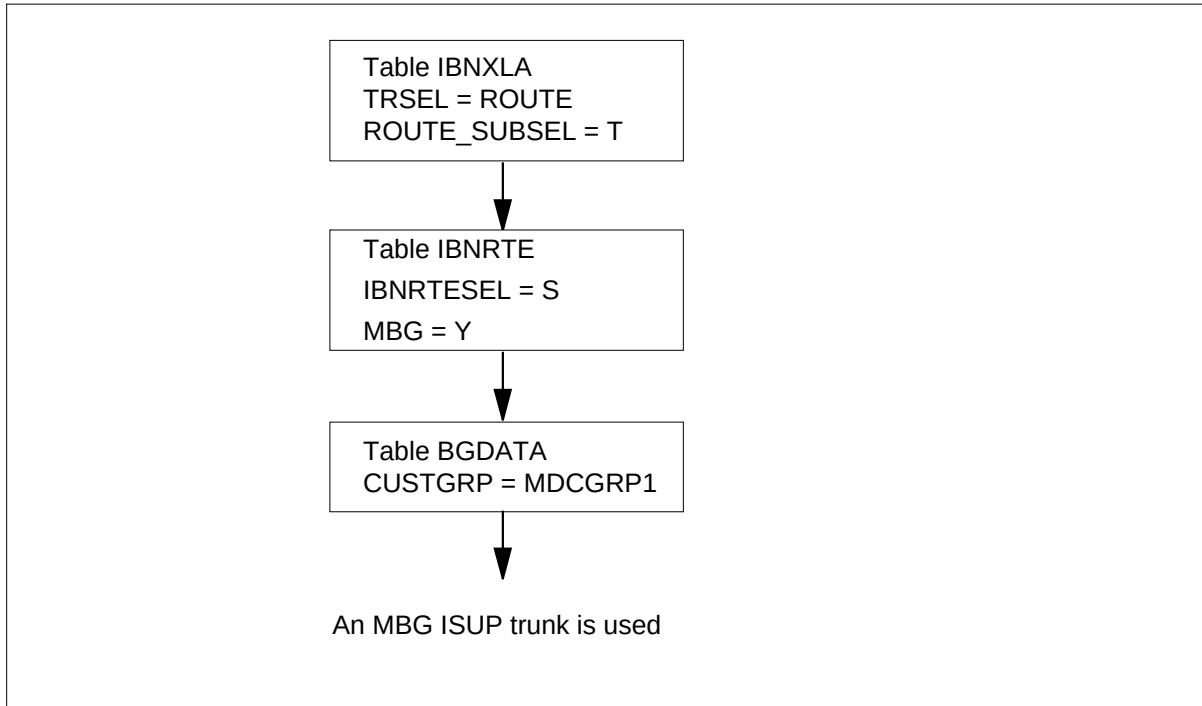
Datafill table	Example data
BGLOCN	MDCGRP1 345 7087000 10 \$
IBNXLA	MDCXLA 34 ROUTE N N N 3 N 6 15 KDK N L 3314 0

Table IBNXLA (IBN Translation) enables an end user to datafill the destination node of a call.

Table IBNRTE (IBN Route) determines whether a route is an MBG. Also, the S selector enables a call to be routed over an MBG ISUP trunk and specifies that the BG identification is to be routed to the terminating switch.

Table BGDATA (Business Group Data) stores business group-related information and enables each customer group to have its own set of parameters associated with MBG calls. For MBG III - Support of Private Numbering Plan, Table BGDATA determines the size of the location code digit string for the customer group associated with the BG parameter using option NUMDIGS.

MBG III - Support of Private Numbering Plan (continued)

Translations data flow for activating MBG III - Support of Private Numbering Plan (selector S)**Limitations and restrictions**

The following limitations and restrictions apply to MBG III - Support of Private Numbering Plan:

- An MBG selector that uses POTS translations should be set up in order for a POTS ISUP trunk to be selected. POTS trunks do not carry the BGID. No mechanism can verify that a POTS ISUP trunk has been chosen.
- The originating trunk specified for TRAVER can contain an unrecognized BG parameter. TRAVER identifies the BG parameter and uses POTS translation of the routing DN to route the call. If an ISUP POTS trunk is selected for outpulsing, TRAVER does not indicate that the input MBG parameters (BGID and GAP) are transported on that outgoing trunk.
- When using an IBNXLA selector of ROUTE/L, an individual digit collector DIGCOL must be specified in order to populate the ISUP IAM GAP with the correct number of digits. If a digit collection mechanism (NDGT) is not specified, only the MINDIGS, as specified by IBNXLA, will be populated into the GAP.

MBG III - Support of Private Numbering Plan (continued)

Interactions

The following features interact with MBG III - Support of Private Numbering Plan:

- Bulk Calling Line Identification -Bulk Calling Line Identification (BCLID) remains unchanged by the presence of the MBG III - Support of Private Numbering Plan feature. The called DN field of the BCLID message is filled with information from the GAP parameter, which also would have been transported in the called number address of the IAM of a private trunk.
- Local Call Detail Recording -Local Call Detail Recording (LCDR) is a feature that can be added to an originating IBN line to generate a billing record, which is generated if the call goes through POTS translations. LCDR records are generated for MBG calls if a translations selector uses POTS translations. Therefore, selectors ROUTE/L, NET/MBG, and NET/LOC of Table IBNXLA and selector LOC of Table IBNRTE generate LCDR records (provided the line has been assigned the MBG III - Support of Private Numbering Plan feature). However, selectors S and N of Table IBNRTE do not generate LCDR records.
- Message Detail Recording -Since MBG trunks simulate IBN trunks, the Message Detail Recording (MDR) feature behaves the same as for MBG trunks; that is, billing records with call code 159 are generated for all incoming and outgoing MBG calls.

MBG III - Support of Private Numbering Plan has no functionality interactions.

The following paragraphs describe the interactions between MBG III - Support of Private Numbering Plan and other functionalities.

Activation/deactivation by the end user

MBG III - Support of Private Numbering Plan requires no activation or deactivation by the end user.

Billing

Bellcore Automatic Message Accounting (AMA) records have been enhanced by incorporating MBG information (specifically, the BG identifier [BGID] and the private called number) into billing records generated for calls that use the MBG capabilities. This enhancement only applies to expanded Bellcore AMA format (EBAF) records.

MBG III - Support of Private Numbering Plan (continued)

MBG III - Support of Private Numbering Plan enhances billing by enabling the operating company to

- generate a billing record for an outgoing MBG call
- append existing billing records with MBG-specific information

Generating billing records for MBG calls

The following table defines the interactions for the billing mechanisms at the originating switch. Column headings refer to the various MBG translations selectors that are used to select an outgoing trunk. The following options entered in Table IBNXLA or Table IBNRTE identify the type of billing record generated for each call:

- VFG -A VFG involved with the call has option VFGAMA enabled
- LCDR- The originating line has option LCDR enabled
- BGPOTS -The routing DN in Table BGLOCN results in a POTS billable record for the call
- FAC - option FACTYPE in Table BGDATA is enabled

Interactions for billing mechanisms at the originating switch (Sheet 1 of 2)

Billing mechanisms	Table IBNXLA			Table IBNRTE	
	ROUTE/L	NET/LOC	NET/MBG	S/N	LOC
VFG	VFG	VFG	VFG	VFG	VFG
LCDR	LCDR	LCDR	LCDR	N/A	LCDR
BGPOTS	BGPOTS	BGPOTS	N/A	N/A	BGPOTS
FAC	FAC	FAC	FAC	FAC	FAC
VFG + BGPOTS	BGPOTS	BGPOTS	N/A	N/A	VFG+ BGPOTS
VFG + FAC	FAC	FAC	FAC	FAC	FAC
LCDR + FAC	FAC	FAC	FAC	N/A	FAC
FACTYPE + BGPOTS	FAC	FAC	N/A	N/A	FAC
VFG + BGPOTS + FAC	FAC	FAC	N/A	N/A	FAC+ BGPOTS

MBG III - Support of Private Numbering Plan (continued)**Interactions for billing mechanisms at the originating switch (Sheet 2 of 2)**

Billing mechanisms	Table IBNXLA			Table IBNRTE	
	ROUTE/L	NET/LOC	NET/MBG	S/N	LOC
LCDR + BGPOTS + FAC	FAC	FAC	N/A	N/A	FAC+ BGPOTS
VFG + LCDR + BGPOTS + FAC	FAC	FAC	N/A	N/A	FAC+ BGPOTS

The following points should be noted:

- Option LCDR only generates billing records from POTS translations and does not interact with selector IBNRTE/S.
- Selector NET/MBG does not use Table BGLOCN. Therefore, billing records using the routing DN in POTS translations are not generated. If the dialed digits access a billable call, a billing record is generated.
- Only selector IBNRTE/LOC generates multiple billing records.

Option FACTYPE has been added to Table BGDATA to specify the billing mechanism. Different billing records are generated, depending on which of the following facility types is selected:

- CCSA call code 021 record, structure codes 0001, 0002, and 0101
- TDMTT call code 032 record, structure codes 0025 and 0125
- FX call code 011 record, structure codes 0500, 0001, 0002, and 0101
- ETS call code 085 record, structure codes 0001, 0002, and 0101

Option BGMDR of Table BGDATA controls billing when AMA records are generated. If option BGMDR is present, all billing records generated for a call in which one of the agents is an MBG trunk include appended MBG-specific module codes.

MBG-related module codes

The following tables display the contents of each module code, as well as the number of characters, data field value, and information supported by MBG III - Support of Private Numbering Plan.

MBG III - Support of Private Numbering Plan (continued)

Module code 911, business group information

Module code 911 is based on the contents of the BG parameter, as shown in the following table.

Module code 911, business group information

Characters	Value	Information
1-2	0C	Locally defined BGID and fixed line privileges
	1C	Nationally defined BGID and fixed line privileges
	2C	Locally defined BGID and end user-defined line privileges
	3C	Nationally defined BGID and end user-defined line privileges
3-10	nnnnnnnC	7-character BGID
11-13	xxx	Value of the 3-character line privileges
14	C or D	Sign (hex C or hex D)

Module code 911 is appended to the AMA record for MBG billable calls in which the originator's customer group is datafilled in Table BGDATA against a BGID with option BGMDR. Module code 911 records the BG information based on the BG parameter in the ISUP signaling protocol.

Module code 912, private called number information

Module code 912 is based on the contents of the GAP, as shown in the following table.

Module code 912, private called number information

Characters	Value	Information
1	0	Padding
2-11	nnnnnnnnnn	10-character private called number
12	C or D	Sign (hex C or hex D)

The following example in Figure shows module codes 911 and 912 being appended to a billing record generated by option FACTYPE CCSA in Table BGDATA. (It is impossible to receive an appended 912 module code without also receiving a 911 module code.)

MBG III - Support of Private Numbering Plan (continued)

Module codes 911 and 912 billing record example

```
*HEX ID:AA STRUCTURE CODE:40500C CALL:021C SENSOR TYPE:03
6C
SENSOR ID:00000000C REC OFFICE TYPE:036C REV OFFICE ID:
00000000C
DATE:10912C CALLED PARTY OFF-HOOK:0C SERVICE FEATURE:000C
ORIG NPA:613C
ORIG NUMBER:7225031C OVERSEAS IND:1C TERM NPA:00613C
TERM NUMBER:7087000C CONNECT TIME:17331194C
ELAPSED TIME:000000009C
MODULE CODE:912C GENERIC ADD PARM:00000025029C MODULE
CODE: 911C
TYPE OF MBG CALL:2 MULTI BUSINESS GRP ID:00000001
MBG LINE PRIVILEGES:000C
MODULE CODE:000C
```

To add 911 and 912 module codes to existing billing records, option BGMDR in Table BGDATA should be datafilled for the selected customer group.

Station Message Detail Recording

MBG III - Support of Private Numbering Plan does not affect Station Message Detail Recording.

Datafilling office parameters

AMA feature AF2755, Increase Flexibility of AMA Software Platform, created a generic call recording platform and integrated Bellcore AMA into the call recording platform. Refer to Bellcore Format Automatic Message Accounting Translations Guide, 297-1001-365, for details on the Increase Flexibility of AMA Software Platform feature. Feature package NTXN01AB, which is used by MBG III - Support of Private Numbering Plan, accesses office parameter Table OFCENG (Engineered Office). Refer to Office Parameters Reference Manual, 297-1001-455, for details.

Datafill procedure for CRS_SUBRU_POOL1_SIZE

Office parameter CRS_SUBRU_POOL1_SIZE controls the provisioning for the CRS_SUBRU_POOL1_SIZE extension block pool. An extension block is required from this pool for the generation of several AMA structures.

MBG III - Support of Private Numbering Plan (continued)

The following procedure identifies the datafill for CRS_SUBRU_POOL1_SIZE.

Office parameters used by MBG III - Support of Private Numbering Plan

Table name	Parameter name	Explanation and action
OFCENG	CRS_SUBRU_POOL1_SIZE	Office Engineering. Specifies the provisioning of the CRS_SUBRU_POOL1_SIZE extension block pool. Enter a value from 0 to 393216. The default value is 100.

Datafill procedure for CRS_SUBRU_POOL2_SIZE

Office parameter CRS_SUBRU_POOL2_SIZE controls the provisioning for the CRS_SUBRU_POOL2_SIZE extension block pool. An extension block is required from this pool for the generation of several AMA structures.

The following procedure identifies the datafill for CRS_SUBRU_POOL2_SIZE.

Office parameters used by MBG III - Support of Private Numbering Plan

Table name	Parameter name	Explanation and action
OFCENG	CRS_SUBRU_POOL2_SIZE	Office Engineering. Specifies the provisioning of the CRS_SUBRU_POOL2_SIZE extension block pool. Enter a value from 0 to 393216. The default value is 100.

Datafill sequence

The following table lists the tables that require datafill to implement MBG III - Support of Private Numbering Plan. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for MBG III - Support of Private Numbering Plan (Sheet 1 of 2)

Table	Purpose of table
BGDATA	Business Group Data Table. This table is used to store information relating to multi-switch business groups (MBGs).
BGLOCN	Business Group Location Table. This table defines the mapping from the location codes of the operating company's network to the routing directory numbers in the public numbering plan.

MBG III - Support of Private Numbering Plan (continued)

Datafill tables required for MBG III - Support of Private Numbering Plan (Sheet 2 of 2)

Table	Purpose of table
IBNXLA	IBN Translation Table. This table stores data for the digit translation of calls from an IBN station, attendant console, incoming IBN trunk group, or incoming side of a two-way IBN trunk group.
IBNRTE	IBN Route Table. This table contains route lists identified by a route reference index number.

Datafilling table BGDATA

The following table shows the datafill specific to MBG III - Support of Private Numbering Plan for table BGDATA. Only those fields that apply directly to MBG III - Support of Private Numbering Plan are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table BGDATA (Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
BGID		see subfields	Business Group Identifier This field consists of subfields LOCATION and GRPNUM. (This is a single-line entry.)
	BGID	LOCAL, NATIONAL, or INTERNATIONAL	Location This subfield specifies the location of the business group to which MBG is to be assigned. Enter LOCAL, NATIONAL, or INTERNATIONAL.
	GRPNUM	0 to 4,294,967,295	Group Number This subfield specifies the business group to which MBG is to be assigned. Enter a value from 0 to 4,294,967,295.
BGXLA		see subfields	Business Group Translations This field consists of subfields AREACODE, OFCCODE, XFERCNT, and MBGCODE. (This is a single-line entry.)
	AREACODE	3-digit code	Area Code This subfield specifies the serving numbering plan area. Enter the 3-digit code.
	OFCCODE	1- to 7-digit code	Office Code This subfield specifies the office code. Enter the 1- to 7-digit code.

MBG III - Support of Private Numbering Plan (continued)

Datafilling table BGDATA (Sheet 2 of 4)

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS	XFERCNT	0 to 8	Transfer Count This subfield specifies the number of digits to transfer when converting a public DN to an MBG DN. Enter a value from 0 to 8.
	MBGCODE	up to 10 digits	MBG Code This subfield specifies the digits that replace the area and office codes. Enter up to 10 digits.
		see subfield	Options This field consists of subfield OPTION.
	OPTION	see explanation and action section	Option This subfield specifies the options assigned to a business group. Enter one or more of the following options: • Enter CUSTGRP to specify that an existing IBN customer group is to be associated with the business group. • Enter BILLDN to specify the billing DN of MBG calls. • Enter BGMDR to specify that business group message detail recordings are to be generated for all calls that originate from a line and terminate to an MBG trunk. • Enter DSR to enable the distinctive ringing option for calls originating from the specified customer group. • Enter SMDR to enable SMDR for calls originating from the specified customer group. • Enter NUMDIGS to specify the number of location digits used in the customer group network. • Enter FACTYPE to enable special billing for the specified customer group. Note: Options BILLDN, BGMDR, DSR, SMDR, NUMDIGS, and FACTYPE have no effect unless option CUSTGRP is specified.
If OPTION is set to CUSTGRP, subfields CUSTGRP, MBG, NUMLINES, INTRAGRP, LSCFN, and LSCINCPT require datafill.			

MBG III - Support of Private Numbering Plan (continued)

Datafilling table BGDATA (Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	CUSTGRP		Customer Group This subfield specifies the name of the IBN customer group that is to be associated with the business group. The customer group name must be datafilled in Table CUSTENG (Customer Group Engineering) before adding it to Table BGDATA.
	MBG	Y or N	Multilocation Business Group Service This subfield specifies whether all the lines in the customer group are to have access to the MBG services. Enter Y or N.
	NUMLINES	0 to 32,767	Number of Lines This read-only subfield displays the number of PDNs (that is, the number of lines in the customer group) ranging from 0 to 32,767. (Secondary DNs are not counted as MBG lines.)
	INTRAGRP	Y or N	Intragroupness. This subfield specifies the interaction of the feature with the MBG trunk. Enter Y if the call is intragroup. Otherwise, enter N. Intragroupness This subfield specifies the interaction of the feature with the MBG trunk. Enter Y if the call is intragroup. Otherwise, enter N.
	LSCFN	0 to 255	Line Screening Code This subfield specifies the line screening code associated with the MBG trunk. If the line screening code of a caller is not in the group of codes associated with the MBG trunk, the caller cannot make an MBG call. Enter a value from 0 to 255.
	LSCINCPT	0 to 255	Line Screening Code Flexible Intercept This subfield specifies the treatment number used in Table IBNTREAT (IBN Treatment) when access to an MBG trunk is blocked by a line screening code. Enter a value from 0 to 255.
If OPTION is set to BILLDN, subfield DN requires datafill.			
	DN	1- to 11-digit value	Directory Number This subfield specifies the billing DN for all calls originating from MBG trunks that have the associated BG parameter. Enter a 1- to 11-digit value.

MBG III - Support of Private Numbering Plan (continued)

Datafilling table BGDATA (Sheet 4 of 4)

Field	Subfield or refinement	Entry	Explanation and action
If OPTION is set to NUMDIGS, subfield NUMLDIGS requires datafill.			
	NUMLDIGS	1 to 5	Number of Location Digits This subfield specifies the number of location digits in the customer group. Enter a value from 1 to 5.
If OPTION is set to FACTYPE, subfield FACTYPE requires datafill.			
	FACTYPE	CCSA, TDMTT, FX, or ETS	Special Billing This subfield specifies the type of special billing for the customer group. Enter CCSA, TDMTT, FX, or ETS.

Datafill example for table BGDATA

The following example shows sample datafill for table BGDATA.

MAP display example for table BGDATA

```

TABLE: BGDATA
BGID

                                BGXLA
                                OPTIONS
-----
LOCAL      1233                                ( 407 484 2 3 ) $
(CUSTGRP MDCGRP1 Y 0 Y 2 60 ) ( NUMDIGS 2 ) ( FACTYPE FX$

```

Datafill procedure for Table BGLOCN

Table BGLOCN (Business Group Location) enables mapping of the arbitrary location code of the end user's network to DNs in the public numbering plan that can be used to establish a route to the switch serving that location code.

This table is indexed by a customer group and a location code. The customer group must have a corresponding BGID in Table BGDATA. The location code is a digit string of a size specified in Table BGDATA and must have a constant length.

The following points should be noted about Table BGLOCN:

- The value entered for field ROUTEDN does not have to belong to the customer group associated with the location code used to access that routing DN. The routing DN must, however, reside on the destination

MBG III - Support of Private Numbering Plan (continued)

switch. (For a routing DN to reside on a switch, it must have been entered in Table DNINV [Directory Number Inventory] and must not be associated with selector D, which routes to treatment. The routing DN must be seven or ten digits long.) If interworking is encountered in the public network, MBG calls terminate to the specified routing DN.

- The same value for field ROUTEDN can be associated with many location codes. Each location code, however, can only have a single ROUTEDN datafilled against it.
- Field REPDIGS is useful when the extension digits in the private dialing plan are the same as the final digits of the associated DID number. Any MBG call that encounters a per-trunk-signaling (PTS) trunk in the public network completes to the routing DN, and all information in the MBG parameters is lost.
- The decoupling of the location code from the DN needed to route to the destination switch allows all datafill for Table BGLOCN to be identical in all switches that serve a specified customer group.
- Option NUMDIGS in Table BGDATA controls the number of digits in the location codes of the associated customer group. This option must exist in Table BGDATA before tuples can be added for that particular customer group in Table BGLOCN.
- All mechanisms that access Table BGLOCN generate an IAM with a GAP. In addition, a BG parameter is also sent.

Datafilling table BGLOCN

The following table shows the datafill specific to MBG III - Support of Private Numbering Plan for table BGLOCN. Only those fields that apply directly to MBG III - Support of Private Numbering Plan are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table BGLOCN (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
BGLOCNKY		see subfields	Business Group Location Key Area This field consists of subfields CUSTGRP and LOCNCODE.
	CUSTGRP	alphanumeric	Customer Group This subfield specifies the name of the customer group. Enter the customer group name.

MBG III - Support of Private Numbering Plan (continued)**Datafilling table BGLOCN (Sheet 2 of 2)**

Field	Subfield or refinement	Entry	Explanation and action
	LOCNCODE	1- to 18-digit value	Location Code This subfield specifies the location code of the customer group network. Enter a 1- to 18-digit value.
ROUTEDN		7- or 10-digit value	Routing Directory Number This field specifies the digit register vector and contains an address in the public numbering plan that can be used to route a call in the specified customer group's network through the public network. Enter a 7- or 10-digit value.
REPDIGS		0 to 15	Replacement Digits This field specifies the number of digits at the end of the preceding field (ROUTEDN) that should be replaced by the corresponding digits in the private number. Enter a value from 0 to 15.
OPTION		\$	Option This field specifies the business group options. For this feature, enter \$.

Datafill example for table BGLOCN

The following example shows sample datafill for table BGLOCN.

MAP display example for table BGLOCN

TABLE: BGLOCN				
BGLOCNKEY	ROUTEDN	REPDIGS	OPTION	
MDCGRP1	345 5168743283	10	\$	

Datafill procedure for Table IBNXLA

Table IBNXLA (IBN Translation) enables an end user to datafill the destination node of a call. The routing DN associated with that call (from Table BGLOCN) is used in the public translators to determine a route.

Selector NET/MBG translates the dialed digits with the POTS translator. It supports an access code for MBG calls, followed by the DID number of the terminator. A customer group can access a network based on MBG trunking without defining a set of location codes and routing DNs. Table BGLOCN is not needed because the digits after the access code can be processed correctly by the POTS translator. The originating switch does not have to send the GAP

MBG III - Support of Private Numbering Plan (continued)

because the contents of the CDPA function as both a routing DN and a private number at the terminating switch. The BG parameter continues to be added to ISUP messages, identifying the call as an MBG call.

Selector NET/LOC enables dialing digits to incorporate the location code of the destination switch. Routing is still executed using POTS translations, based on the routing DN in Table BGLOCN.

Selector ROUTE/L is used to select a route by specifying the location of the destination switch. Once this tuple is encountered in translations, Table BGLOCN is accessed. The routing DN of the specified location is selected along with the POTS translator, which uses the routing DN to select a route. Subfield LINEATTR is used to select a specific POTS translator. This tuple decouples the datafill of the private network (a set of location codes and the digits required to access them) and the datafill of the public network. The operating company can change the routing of the public network, but the existing MBG datafill continues to result in valid routes, which can vary. (In addition, the IAMs of the ISUP trunks selected by this mechanism contain a BG parameter and a GAP.)

The following list summarizes the selectors:

- Selector NET/MBG enables the dialed digits to be translated with the POTS translator.
- Selector NET/LOC enables the dialing digits to incorporate the location code of the destination switch.
- Selector ROUTE/L specifies the location of the destination switch. (The value from field ROUTEDN in Table BGLOCN is used in the public translator to determine the route.)

The following procedure identifies the datafill for Table IBNXLA that is specific to this feature. Only those fields that directly apply to this feature are shown. For details on all fields in this table, refer to the Data Schema section of this document.

Datafilling table IBNXLA

The following table shows the datafill specific to MBG III - Support of Private Numbering Plan for table IBNXLA . Only those fields that apply directly to

MBG III - Support of Private Numbering Plan (continued)

MBG III - Support of Private Numbering Plan are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table IBNXLA

Field	Subfield or refinement	Entry	Explanation and action
RESULT		see subfield	Result This field consists of subfield TRSEL.
	TRSEL	NET or ROUTE	Translations Selector This subfield specifies the translations selector. Enter NET or ROUTE.
	If TRSEL is set to NET, many subfields require datafill. Only subfield NET_TYPE pertains to this feature.		
	NET_TYPE	MBG LOC	Network Type This subfield specifies the CLLI selector. Enter MBG to enable the dialed digits to be translated with the POTS translator, or enter LOC to enable the dialing digits to incorporate the location code of the destination switch.
	If TRSEL is set to ROUTE, many subfields require datafill. Only subfield ROUTE_SUBSEL pertains to this feature.		
	ROUTE_SUBSEL	see explanation and action section	Route Selector This subfield specifies the route selector. Enter one of the following values: - Enter L to specify the location of the destination switch. Field ROUTEDN in Table BGLOCN is then used to determine the route. - Enter T to specify that trunk translations are to route to Table CLLI through another table. If ROUTE_SUBSEL is set to T, subfield TABID requires datafill.
	TABID	OFRT, OFR2, OFR3, OFR4, IBNRTE, IBNRT2, IBNRT3, or IBNRT4	Table Identifier This subfield specifies the table to which translations must route. Enter OFRT, OFR2, OFR3, OFR4, IBNRTE, IBNRT2, IBNRT3, or IBNRT4.

Datafill example for table IBNXLA

The following example shows sample datafill for table IBNXLA.

MBG III - Support of Private Numbering Plan (continued)

MAP display example for table IBNXLA

TABLE: IBNXLA KEY		RESULT										
MDCXLA	32	NET	N	N	N	1	N	POTS	N	N	MBG	0

The following example shows sample datafill for Table IBNXLA using selector NET/LOC.

MAP display example for table IBNXLA using selector NET/LOC

TABLE: IBNXLA KEY		RESULT											
MDCXLA	33	NET	N	N	N	1	N	POTS	N	N	LOC	0	1

The following example shows sample datafill for Table IBNXLA using selector ROUTE/L.

MAP display example for table IBNXLA using selector ROUTE/L

TABLE: IBNXLA KEY		RESULT												
MDCXLA	34	ROUTE	N	N	N	3	N	6	15	KDK	N	L	3314	0

Datafill procedure for Table IBNRTE

Table IBNRTE (IBN Route) enables MBG trunks to share route lists with other facilities. Selector S has been modified to contain an MBG field that specifies that any calls that route using this tuple should be considered MBG calls. The dialed digits are entered into the CDPA. The outgoing IAM contains a BG parameter but does not contain a GAP.

Selector N contains a digit manipulation index to manipulate the called digits and operates similar to selector S.

Selector LOC has been added and operates similar to selector ROUTE/L in Table IBNXLA. Once this tuple is encountered in translations, Table

MBG III - Support of Private Numbering Plan (continued)

BGLOCN is accessed. The routing DN of the specified location is selected along with the POTS translator, which uses the routing DN to select a route. In Table IBNXLA, subfield LINEATTR is used to select a specific POTS translator.

Any tuples following selector LOC in the route list are never accessed. The public translator specified in the associated LINEATTR tuple does not return to Table IBNRTE if public translation fails.

The following procedure identifies the datafill for Table IBNRTE that is specific to this feature. Only those fields that directly apply to this feature are shown. For details on all fields in this table, refer to the Data Schema section of this document.

Datafilling table IBNRTE

The following table shows the datafill specific to MBG III - Support of Private Numbering Plan for table IBNRTE. Only those fields that apply directly to MBG III - Support of Private Numbering Plan are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table IBNRTE (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
RTELIST		see subfield	Route Selector This field consists of subfield IBNRTSEL.
	IBNRTSEL	see explanation and action section	IBN Route Selector This subfield specifies that routing is to terminate on a specific location in the end user's network. Enter one of the following values: • Enter S if the dialed digits are outpulsed. • Enter N if the outpulsed digits are not identical to the dialed digits. • Enter LOC to enable translations to recognize that an MBG call is to be routed using POTS translations.
If IBNRTSEL is set to S, many subfields require datafill. Only subfield MBG pertains to this feature.			
	MBG	Y or N	Multilocation Business Group This subfield specifies whether the route is an MBG type. Enter Y or N.

MBG III - Support of Private Numbering Plan (continued)

Datafilling table IBNRTE (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
If IBNRTSEL is set to N, many subfields require datafill. Only subfield MBG pertains to this feature			
	MBG	Y or N	Multilocation Business Group This subfield specifies whether the route is an MBG type. Enter Y or N.

Datafill examples for table IBNRTE

The following example shows sample datafill for table IBNRTE using selector S.

MAP display example for table IBNRTE using selector S

TABLE: IBNRTE									
RTE					RTELIST				
90					(S Y N N Y COMKODAK)	\$			

The following example shows sample datafill for table IBNRTE using selector N.

MAP display example for table IBNRTE using selector N

TABLE: IBNRTE									
RTE					RTELIST				
91					(N N N N Y COMKODAK)	\$			

The following example shows sample datafill for table IBNRTE using selector LOC.

MBG III - Support of Private Numbering Plan (continued)

MAP display example for table IBNRTE using selector LOC

TABLE: IBNRTE

RTE	RTELIST
92	(LOC 0 257) \$

Translation verification tools

The TRAVER (translation verification) command has been modified to identify selected routes for MBG traffic. Translation options are supplied so that an end user's private network can be defined without reference to existing POTS translation requirements.

These modifications enhance the following portions of TRAVER:

- the command line for specifying MBG characteristics
- the output for displaying the MBG parameters of the outgoing trunk
- the data display for showing MBG-specific datafill

Command line

The TRAVER command line has been modified to accept an MBG optional parameter, which is available only when the originating agent is a trunk. Standard TRAVER command line components still must be entered. After the TRAVER command and the MBG-specific data have been entered, the keyword MBG must be specified, followed by the BGID, the line privilege (LP), and the GAP. Entering N for the GAP implies that no GAP is associated with the incoming call.

Possible TRAVER command line sequences include

- **>TRAVER TR ISUPITIC 7621003 B** (for a standard call)
- **>TRAVER TR ISUPITIC MBG LOCAL 1 0 N 7621003 B** (for an MBG call without a GAP)
- **>TRAVER TR ISUPITIC MBG LOCAL 1 0 N 27000 7621003 B** (for an MBG call with a GAP)

The following example of a partial TRAVER data display shows output used to specify a trunk-to-line MBG call with a GAP. The incoming IAM of the ISUP trunk (ISUPITIC) has a BGID of LOCAL 1. The LP value is 0, and the digit string in the GAP is 27000. TRAVER identifies the terminators as 613-722-7000.

MBG III - Support of Private Numbering Plan (continued)

MBG III - Support of Private Numbering Plan does not use translation verification tools.

The following example shows the output from <TOOLNAME> when it is used to verify MBG III - Support of Private Numbering Plan.

Traver output example for MBG III - Support of Private Numbering Plan

```
1      >TRAVER TR ISUPITIC MBG LOCAL 1 0 27000 7621003NT
2      DIGIT TRANSLATION ROUTES
3      1 LINE                6137227000          ST
4      TREATMENT ROUTES. TREATMENT IS: GNCT
5      1 T120
6
7      +++ TRAVER: SUCCESSFUL CALL TRACE +++
8
```

Output

If a POTS ISUP trunk has been selected and the call is an MBG type, the TRAVER output contains the MBG parameters that are transported in the IAM for that call.

In the following example of a partial TRAVER data display, ISUPITOG is selected as an outgoing MBG trunk, and the TRAVER output displays the BGID of LOCAL 1. The LP is 0, and the digit string in the GAP is 27000. The routing DN is 762-1003.

TRAVER output example for a line-to-line MBG call with the NT (no trace) parameter

```
1      >TRAVER L 7227010 3227000 NT
2      MBG TRUNK SELECTED FOR OUTPUTSING
3      1 ISUPITOG 7621003 ST
4      MBG: LOCAL 01 LP: 0 GAP: 27000
5
6      TREATMENT ROUTES. TREATMENT IS: GNCT
7      1 *OFLO
8      2 LKOUT
9
10     +++ TRAVER: SUCCESSFUL CALL TRACE +++
11
```

MBG III - Support of Private Numbering Plan (continued)

Data display

TRAVER data display has been modified to display the relevant tuples from MBG-specific tables when MBG datafill is used in translations.

The following example is a complete TRAVER of an MBG call with MBG-specific datafill identified by asterisks (*) beside the line numbers. The beginning part of the example (up to the asterisks) is standard customer group translations. When the MBG-specific translations selector is accessed (in Table IBNXL), the MBG-specific tables (that is, Tables BGDATA and BGLOCN) are accessed.

The bottom part of the example is POTS translation of the routing DN (previously datafilled in Table BGLOCN), which determines the POTS trunks used for this MBG call.

MBG III - Support of Private Numbering Plan (continued)

TRAVER output example for a line-to-line MBG call with the B (both) parameter

```

>TRAVER L 7227010 3227000 B
1  TABLE KSETLINE
2  HOST 00 0 03 24  1 DN Y 7227010 COMXXX 0 0 613 (CWT)(3WC)(RAG)$
3  TABLE DNATTRS
4  613 722 7010
5      (PUBLIC (NAME BERT) $)$ $
6  TABLE DNGRPS
7  TUPLE NOT FOUND
8  TABLE NCOS
9  COMXXX 0 0 0 KDK ( OHQ 0 TONE_OHQ() CBQ 0 3 N 2)$
10 TABLE CUSTHEAD: CUSTGRP, PRELIMXLA,CUSTXLA, FEATXLA, VACT RMT,
11 AND DIGCOL
12 COMXXX PXDK CXDK FTCOMM 0 KDK
13 TABLE DIGCOL
14 KDK 3 COL L 1
15 NCOS PRELIM XLA name is NIL. Go to next XLA name.
16 TABLE IBNXLA: XLANAME PXDK
17 TUPLE NOT FOUND
18 Default is to go to next XLA name.
19 TABLE IBNXLA: XLANAME CXDK
20 CXDK 32 ROUTE N Y N 2 N 3 15 NDGT Y L 0 257
21 TABLE DIGCOL
22* NDGT specified: digits collected individually
23* TABLE BGDATA
24* LOCAL 1 $ (NUMDIGS 3) (CUSTGRP COMXXX Y 221 Y 0 0)$
25* TABLE BGLOCN
26 COMXXX 257 7611003 0
27 TABLE LINEATTR
28 0 1FR NONE NT FR01 0 613 P621 L613 TSPTS 10 NIL NILSFC NILL ATA 0
29 NIL NIL 00 N $
30 LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
31 TABLE STDPRTCT
32 P621 ( 1) ( 0)
33 . SUBTABLE STDPRT
34 WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE BILLING.
35 CALL TYPE DEFAULT IS NP. PLEASE REFER TO DOCUMENTATION.
36 . 7 810 N NP 0 NA

```

MBG III - Support of Private Numbering Plan (continued)

TRAVER output example for a line-to-line MBG call with the B (both) parameter (continued)

```

37 . SUBTABLE AMAPRT
38 . KEY NOT FOUND
39 . DEFAULT VALUE IS:      NONE OVRNONE      N
40 TABLE HNPACONT
41 613 312 1 ( 59) ( 1) ( 84) ( 0)
42 . SUBTABLE HNPACODE
43 . 761 761 LRTE 106
44 . SUBTABLE RTEREF
45 . 106 N D ISUPITOG 3 762 N
46 . EXIT TABLE RTEREF
47 EXIT TABLE HNPACONT
48 TABLE LCASCRN
49 613 L613 ( 11) MNDT N
50 . SUBTABLE LCASCR
51 . TUPLE NOT FOUND. DEFAULT IS NON-LOCAL
52 TABLE PFXTREAT
53 TUPLE NOT FOUND. DEFAULT IS TO LEAVE XLA RESULT UNCHANGED
54 TABLE CLSVSCRC
55 KEY NOT FOUND
56 DEFAULT IS TO LEAVE XLA RESULT UNCHANGED.
57
58 +++ TRAVER: SUCCESSFUL CALL TRACE +++
59
60* MBG TRUNK SELECTED FOR OUTPUTSING
61*
62* DIGIT TRANSLATION ROUTES
63*
64* 1 ISUPITOG      7621003      ST
65*      MBG: LOCAL 01 LP: 0 GAP: 27000
66
67 TREATMENT ROUTES. TREATMENT IS: GNCT
68 1 *OFLO
69 2 LKOUT
70
71 +++ TRAVER: SUCCESSFUL CALL TRACE +++

```

TRAVER examples

The following five TRAVER examples depict translation mechanisms for making MBG calls:

- selector S in Table IBNRTE
- selector ROUTE/L in Table IBNXLA
- selector NET/MBG in Table IBNXLA

MBG III - Support of Private Numbering Plan (continued)

- selector NET/LOC in Table IBNXLA
- selector LOC in Table IBNRTE

In each example, asterisks (*) beside line numbers indicate changes due to MBG. Octothorpes (#) indicate the POTS translations used as a consequence of MBG.

Selector S in Table IBNRTE

Selector S in Table IBNRTE has an extra field, the MBG parameter. A value of N implies that the tuple is to function as in previous releases (pre-BCS34). A value of Y implies that the selected POTS ISUP trunk carries the BGID, which specifies the originator's customer group. The GAP is not transported.

MBG III - Support of Private Numbering Plan (continued)**TRAYER output example for (selector S)**

```

>TRAYER L 7227000 3123333 B
1  TABLE KSETLINE
2  HOST 00 0 03 24 1 DN Y 7227000 COMXXX 0 0 613 (CWT)(3WC)(RAG)$ )
3  (CWI)
4  TABLE DNATTRS
5  613 722 7000
6      (PUBLIC (NAME BERT) $)$ $
7  TABLE DNGRPTS
8  TUPLE NOT FOUND
9  TABLE NCOS
10 COMXXX 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2)$
11 TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND
12 DIGCOL
13 COMXXX PXDK CXDK FTCOMM 0 KDK
14 TABLE DIGCOL
15 KDK 3 COL L 1
16 NCOS PRELIM XLA name is NIL. Go to next XLA name.
17 TABLE IBNXLA: XLANAME PXDK
18 TUPLE NOT FOUND
19 Default is to go to next XLA name.
20 TABLE IBNXLA: XLANAME CXDK
21 CXDK 31 ROUTE N Y N 2 N 3 15 NDGT Y T IBNRTE 90
22 TABLE DIGCOL
23 NDGT specified: digits collected individually
24* TABLE IBNRTE
25* 90 S N N N Y ISUPITOG
26* TABLE BGDATA
27* LOCAL 1 $ (NUMDIGS 3) (CUSTGRP COMXXX Y 221 Y 0 0) $
28 EXIT TABLE IBNRTE
29
30 +++ TRAYER: SUCCESSFUL CALL TRACE +++
31
32* MBG TRUNK SELECTED FOR OUTPUTSING
33*
34* DIGIT TRANSLATION ROUTES
35*
36* 1 ISUPITOG 23333 ST
37* MBG: LOCAL 01 LP: 0
38
39 TREATMENT ROUTES. TREATMENT IS: GNCT
40 1 *OFLO
41 2 LKOUT
42
43 +++ TRAYER: SUCCESSFUL CALL TRACE +++

```

MBG III - Support of Private Numbering Plan (continued)

Selector ROUTE/L in Table IBNXLA

Selector ROUTE in Table IBNXLA contains a subselector, location, in addition to the existing CLLI trunk and table selectors. The location selector (L) enables an operating company to map an access code to a location within the end user's network. The specified location code is used to index into Table BGLOCN to determine the routing DN used to route the call using POTS translations.

Selector L adds a BGID and a GAP to the IAM of the outgoing call.

MBG III - Support of Private Numbering Plan (continued)**TRAVER output example for (selector ROUTE/L)**

```

>TRAVER L 7227000 3224444 B
1  TABLE KSETLINE
2  HOST 00 0 03 24 1 DN Y 7227000 COMXXX 0 0 613 (CWT)(3WC)(RAG) $ )
3  (CWI)
4  TABLE DNATTRS
5  613 722 7000
6      PUBLIC (NAME BARB) $)$ $
7  TABLE DNGRPS
8  TUPLE NOT FOUND
9  TABLE NCOS
10 COMXXX 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2)$
11 TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND
12 DIGCOL
13 COMXXX PXDK CXDK FTCOMM 0 KDK
14 TABLE DIGCOL
15 KDK 3 COL L 1
16 NCOS PRELIM XLA name is NIL. Go to next XLA name.
17 TABLE IBNXLA: XLANAME PXDK
18 TUPLE NOT FOUND
19 Default is to go to next XLA name.
20 * TABLE IBNXLA: XLANAME CXDK
21 * CXDK 32 ROUTE N Y N 2 N 3 15 NDGT Y L 0 257
22 TABLE DIGCOL
23 NDGT specified: digits collected individually
24 * TABLE BGDATA
25 * LOCAL 1 $ (NUMDIGS 3) (CUSTGRP COMXXX Y 221 Y 0 0)$
26 * TABLE BGLOCN
27 * COMXXX 257 7087000 0
28 * TABLE LINEATTR
29 * 0 1FR NONE NT FR01 0 613 P621 L613 TSPS 10 NIL NILSFC NILLATA 0 NIL
30 # NIL 00 N $
31 # LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
32 # TABLE STDPRTCT
33 P621 ( 1) ( 0)
34 # . SUBTABLE STDPRT
35 # WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE BILLING.

```

MBG III - Support of Private Numbering Plan (continued)

TRAVER output example for (selector ROUTE/L)

```

36 # CALL TYPE DEFAULT IS NP. PLEASE REFER TO DOCUMENTATION.
37 #   . 7 810 N NP 0 NA
38 #   . SUBTABLE AMAPRT
39 #   . KEY NOT FOUND
40 #   . DEFAULT VALUE IS:      NONE OVRNONE N
41 # TABLE HNPACONT
42 # 613 312 1 ( 59) ( 1) ( 84) ( 0)
43 #   . SUBTABLE HNPACODE
44 #   . 708 708 LRTE 106
45 #   . SUBTABLE RTEREF
46 #   . 106 N D ISUPITOG 3 722 N
47 #   . EXIT TABLE RTEREF
48 # EXIT TABLE HNPACONT
49 # TABLE LCASCRN
50 # 613 L613 ( 11) MNDT N
51 #   . SUBTABLE LCASCR
52 #   . TUPLE NOT FOUND. DEFAULT IS NON-LOCAL
53 # TABLE PFXTREAT
54 # TUPLE NOT FOUND. DEFAULT IS TO LEAVE XLA RESULT UNCHANGED
55 # TABLE CLSVSCRC
56 # KEY NOT FOUND
57 # DEFAULT IS TO LEAVE XLA RESULT UNCHANGED.
58
59 # +++ TRAVER: SUCCESSFUL CALL TRACE +++
60 *
61 * MBG TRUNK SELECTED FOR OUTPUTSING
62 *
63 * DIGIT TRANSLATION ROUTES
64 *
65 * 1 ISUPITOG      7227000      ST
66 *              MBG: LOCAL 01 LP: 0 GAP: 24444
67
68 # TREATMENT ROUTES. TREATMENT IS: GNCT
69 # 1 *OFLO
70 # 2 LKOUT
71
72 # +++ TRAVER: SUCCESSFUL CALL TRACE +++

```

Selector NET/MBG in Table IBNXLA

Selector NET in Table IBNXLA contains subselector MBG. This subselector processes any digits following the access code with POTS translations, similar to the NET/DOD selector. The difference is that the selected POTS ISUP trunk carries a BGID and does not carry a GAP.

MBG III - Support of Private Numbering Plan (continued)**TRAVER output example for(selector LOC)**

```

>TRAVER L 7227000 3525678 B
1    TABLE KSETLINE
2    HOST 00 0 03 24 1 DN Y 7227000 COMXXX 0 0 613
3    (CWT)(3WC)(RAG)$      (CWI)
4    TABLE DNATTRS
5    613 722 7000
6          PUBLIC (NAME BILL) $)$ $
7    TABLE DNGRPS
8    TUPLE NOT FOUND
9    TABLE NCOS
10   COMXXX 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2)$
11   TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA,
12   VACTRMT, AND DIGCOL
13   COMXXX PXDK CXDK FTCOMM 0 KDK
14   TABLE DIGCOL
15   KDK 3 COL L 1
16   NCOS PRELIM XLA name is NIL. Go to next XLA name.
17   TABLE IBNXLA: XLANAME PXDK
18   TUPLE NOT FOUND
19   Default is to go to next XLA name.
20 *  TABLE IBNXLA: XLANAME CXDK
21 *  CXDK 35 NET N Y N 2 N 3 15 NDGT Y T IBNRTE 91
22   TABLE DIGCOL
23   NDGT specified: digits collected individually
24 *  TABLE IBNRTE
25 *    91 LOC 0 257
26 *  TABLE BGDATA
27 *  LOCAL 1 $ (NUMDIGS 3) (CUSTGRP COMXXX Y 221 Y 0 0)$
28 *  TABLE BGLOCN
29 *  COMXXX 257 7087000 0
30 #  EXIT TABLE IBNRTE
31 #  TABLE LINEATTR
32 #  0 1FR NONE NT FR01 0 613 P621 L613 TSPS 10 NIL NILSFC NILLATA
33   0      NIL NIL 00 N $
34 #  LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE

```

MBG III - Support of Private Numbering Plan (continued)**TRAVER output example for (selector LOC)**

```

35 #   TABLE STDPRTCT
36 #   P621 ( 1) ( 0)
37 #   . SUBTABLE STDPRT
38 #   WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE BILLING.
39 #   CALL TYPE DEFAULT IS NP. PLEASE REFER TO DOCUMENTATION.
40 #   . 7 810 N NP 0 NA
41 #   . SUBTABLE AMAPRT
42 #   . KEY NOT FOUND
43 #   . DEFAULT VALUE IS:      NONE OVRNONE N
44 #   TABLE HNPACONT
45 #   613 312 1 ( 59) ( 1) ( 84) ( 0)
46 #   . SUBTABLE HNPACODE
47 #   . 708 708 LRTE 106
48 #   . SUBTABLE RTEREF
49 #   . 106 N D ISUPITOG 3 722 N
50 #   . EXIT TABLE RTEREF
51 #   EXIT TABLE HNPACONT
52 #   TABLE LCASCRN
53 #   613 L613 ( 11) MNDT N
54 #   . SUBTABLE LCASCR
55 #   . TUPLE NOT FOUND. DEFAULT IS NON-LOCAL
56 #   TABLE PFXTREAT
57 #   TUPLE NOT FOUND. DEFAULT IS TO LEAVE XLA RESULT UNCHANGED
58 #   TABLE CLSVSCRC
59 #   KEY NOT FOUND
60 #   DEFAULT IS TO LEAVE XLA RESULT UNCHANGED.
61
62   +++ TRAVER: SUCCESSFUL CALL TRACE +++
63
64 *   MBG TRUNK SELECTED FOR OUTPUTSING
65 *
66 *   DIGIT TRANSLATION ROUTES
67 *
68 *   1 ISUPITOG      7227000      ST
69 *           MBG: LOCAL 01 LP: 0 GAP: 25678
70
71   TREATMENT ROUTES. TREATMENT IS: GNCT
72   1      *OFLO
73   2      LKOUT
74
75   +++ TRAVER: SUCCESSFUL CALL TRACE +++

```

MBG III - Support of Private Numbering Plan (end)

Limitations

The following TRAVER limitations apply to MBG III - Support of Private Numbering Plan:

- An MBG selector that uses POTS translations should be set up in order for a POTS ISUP trunk to be selected. POTS trunks do not carry the BGID. No mechanism can verify that a POTS ISUP trunk has been chosen.
- The originating trunk specified for TRAVER can contain an unrecognized BG parameter. TRAVER identifies the BG parameter and uses POTS translation of the routing DN to route the call. If an ISUP POTS trunk is selected for outpulsing, TRAVER does not indicate that the input MBG parameters (BGID and GAP) are transported on that outgoing trunk.

SERVORD

MBG III - Support of Private Numbering Plan does not use SERVORD.

MBG IV - Support of Network EMW

Ordering codes

Functional group ordering code: MDC00005

Functionality ordering code: does not apply

Release applicability

NA008 and later versions

Requirements

To operate, the MBG IV - Support of Network EMW feature has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- Base ISUP, ISP70001
- MDC Standard, MDC00003

Description

The MBG IV - Support of Network EMW feature provides multilocation business group (MBG) end users with network executive message waiting (EMW) capabilities. This feature is a continuation of features AG2554, MBG II - Support of IBN7 Trunk Features, and AG2555, MBG III - Support of Private Numbering Plan. With this feature, an MBG end user can leave an EMW message against another MBG end user. The second MBG end user does not appear in the public numbering plan. Refer to "MBG II - Support of IBN7 Trunk Features" and "MBG III - Support of Private Numbering Plan" for details on these features.

This feature adds the calling generic address parameter (GAP) to the initial address message (IAM). The GAP transports private numbers.

Operation

The system can send a call over an IBN integrated services digital network user part (ISUP) trunk group. The IAM of the ISUP trunk group is missing a business group (BG) parameter. In this event, the system classifies the call as a call that the system receives over the public network. The system routes an MBG call over a public ISUP facility. The system retains the identity of a customer group that subscribes to the MBG services. The call retains this identity because the BG parameter is in the IAM. Refer to "Multi-location Business Group I" and "ISUP Shared Trunking Enhancement" for descriptions of call processing functionality for agents in the public numbering plan.

MBG IV - Support of Network EMW (continued)

TCAP messaging

The Network EMW feature uses TCAP messaging and connectionless service that the signaling connection control part (SCCP) of the Common Channel Signaling 7 (CCS7) network provides. The TCAP requirements include building and sending TCAP messages. These messages instruct the terminating switch to perform specified functions. The system obtains the address of the destination of a TCAP packet through global title translation (GTT). The CCS7 network perform the FTT.

The MBG IV - Support of Network EMW feature adds the calling GAP in the IAM. The IAM also contains the following parameters:

- business group identifier (BGID)
- called party and called number that contains the routing number
- calling party address
- called party GAP

The called party GAP contains the private number. The private number is the location code of the terminating switch and the extension of the party. Calling and called GAPs are optional parameters in the IAM.

Calling numbers

The system requires the contents of the calling number transported across the network to operate networked features. The system transports calling number information to allow private MBG networks to be present on public networks. The following four DNs associate with an agent on a DMS switch:

- Physical DN. This DN is associated with a line equipment number (LEN) and identifies the physical termination of the DN. The system maps the LEN and DN. To map these numbers, enter data in the following tables:
 - table KSETLINE (Business Set and Data Unit Line Assignment) for Meridian business sets (MBS)
 - table IBNLINES (IBN Line Assignment) for IBN lines
 - table LENLINES (Line Assignment) for plain old telephone service (POTS) lines
- Public DN. This DN is an address in the North American public numbering plan with the format N0X-NXX-XXXX or N1X-NXX-XXXX. In this numbering plan, the first three digits correspond to the numbering plan area (NPA). The second three digits correspond to the office code. The value for N can be a number between 2 and 9. The value for X can be a number between 0 and 9. International numbers have a different format. For POTS lines, the public DN can match the physical DN. If the public

MBG IV - Support of Network EMW (continued)

DN does not match the physical DN, enter data in table DNGRPS (Directory Number Groups).

- Private DN. This DN is an address in a private network without format restrictions. This DN can match a physical DN. This DN is available for non-direct inward dialable (DID) numbers. Like a public DN, you can enter a private DN in table DNGRPS.
- MBG DN. This DN is the MBG address of an agent in a customer group. The first set of digits refers to the location code. The location code is an index to Table BGLOCN (Business Group Location). The first set of digits identifies the node of the agent. The location code also determines a public routing DN for the call. The location code can contain a maximum of 5 digits. The second set of digits refers to the extension. The second set of digits can contain a maximum of 5 digits. Normally, the extension of the MBG DN matches the extension of the physical DN.

Enter the mapping of a physical DN to an MBG DN and the mapping of an MBG DN to a physical DN in table BGDATA (Business Group Data). The system uses these mappings in the calling GAP in the IAM and TCAP. Refer to "Datafill procedure for Table BGDATA" in this feature description for details. The calling party address in the IAM contains the physical DN, the public DN, or the private DN. The system uses the MBG DN in the calling GAP parameter in the IAM. The TCAP also uses the MBG DN.

Calling generic address parameter

The system adds address information as a calling GAP. The parts of a calling GAP appear in the following description. Refer to the Bellcore publication *MBG Structure for Conventional or ISDN Access Generic Requirements*, TA-NWT-000868, for details.

- type of address: GEN_ADDR_CALLING_GAP (CALLING_NUMBER) #06
- odd/even indicator, where 0 is the even number of address digits and 1 is the odd number of address digits
- nature of address indicator: subscriber number 1
- numbering plan indicator: private numbering plan 5
- presentation restriction indicator, where 00 indicates presentation allowed and 01 indicates presentation restricted
- address information: coded as in the calling MBG DN

MBG IV - Support of Network EMW (continued)

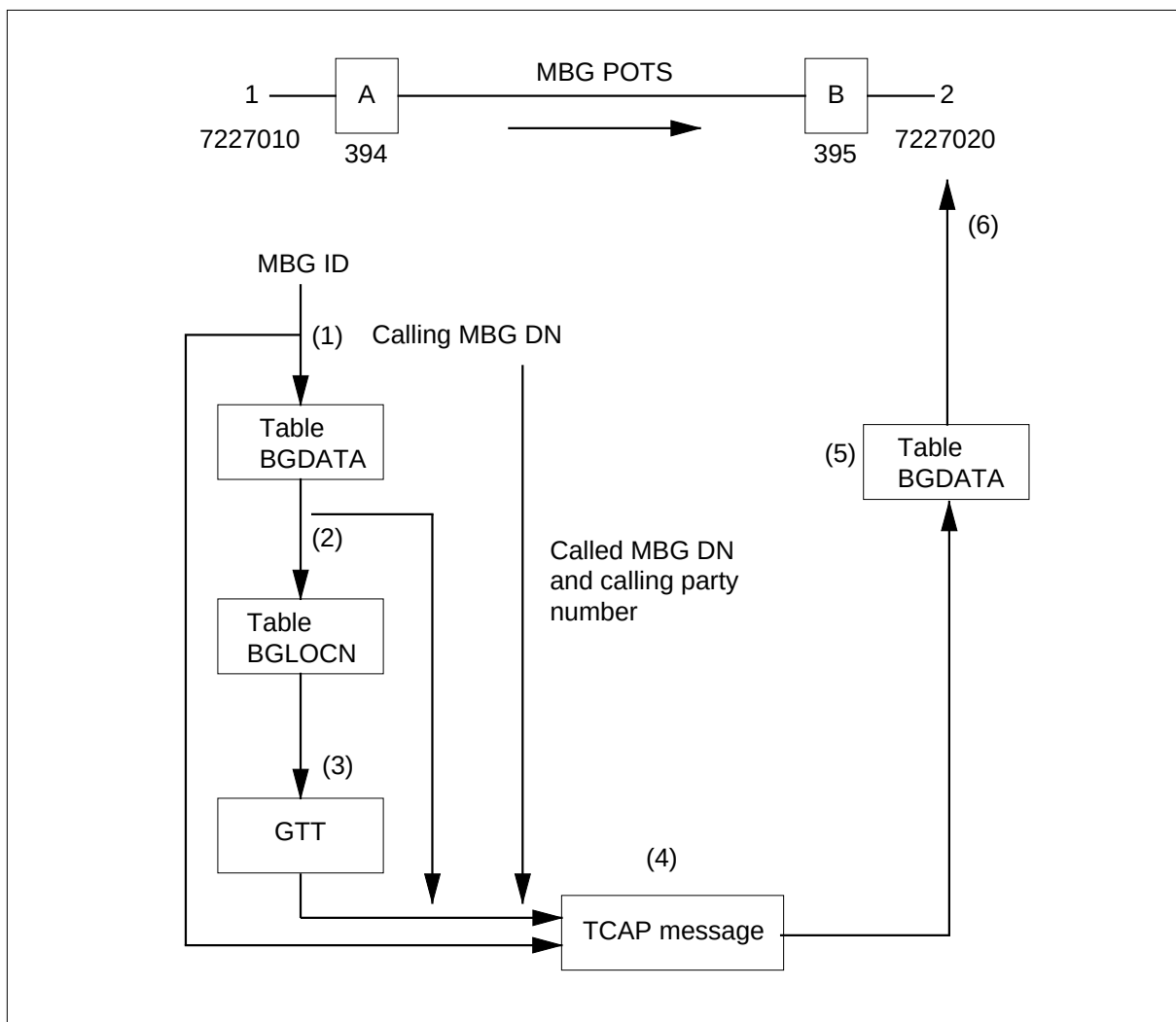
Interaction

The first and last legs of a call can be MBG calls and field BGXLA can contain data in table BGDATA. When these conditions occur, the system sends the calling GAP in the IAM.

Network EMW

The MBG IV - Support of Network EMW feature supports network EMW capabilities. The TCAP message includes the multilocation business group identification (MBG ID) and the calling and called GAPs. The system uses the called GAP to locate the terminating station. The system supports the network location (NET/LOC) selector.

Station 1 uses EMW to leave a message against station 2



MBG IV - Support of Network EMW (continued)

When station 1 activates EMW, the system sends an initial query TCAP message to node B by node A. The system leaves a message against station 2. This process appears in the following figure. The sequence of steps appears in the following list:

- Node A uses the MBG ID to index Table BGDATA to determine the customer group and calling MBG DN.
- The customer group and called MBG DN index table BGLOCN to determine the routing DN.
- When the selection of the routing DN occurs, GTT determines the destination address of node B for the TCAP message.
- Node A sends a TCAP message to node B. The message includes the MBG ID, the MBG DN, the calling MBG DN, and the calling party number.
- Node B receives the TCAP message. Node B uses the MBG ID and called MBG DN to map to a physical DN through table BGDATA. Node B stores the MBG ID and dialable calling party number through the calling party number and reverse translation.
- After mapping of the physical DN occurs, node B checks the status of the physical DN.

User interface

The MBG IV - Support of Network EMW feature does not affect user interface.

Translations table flow

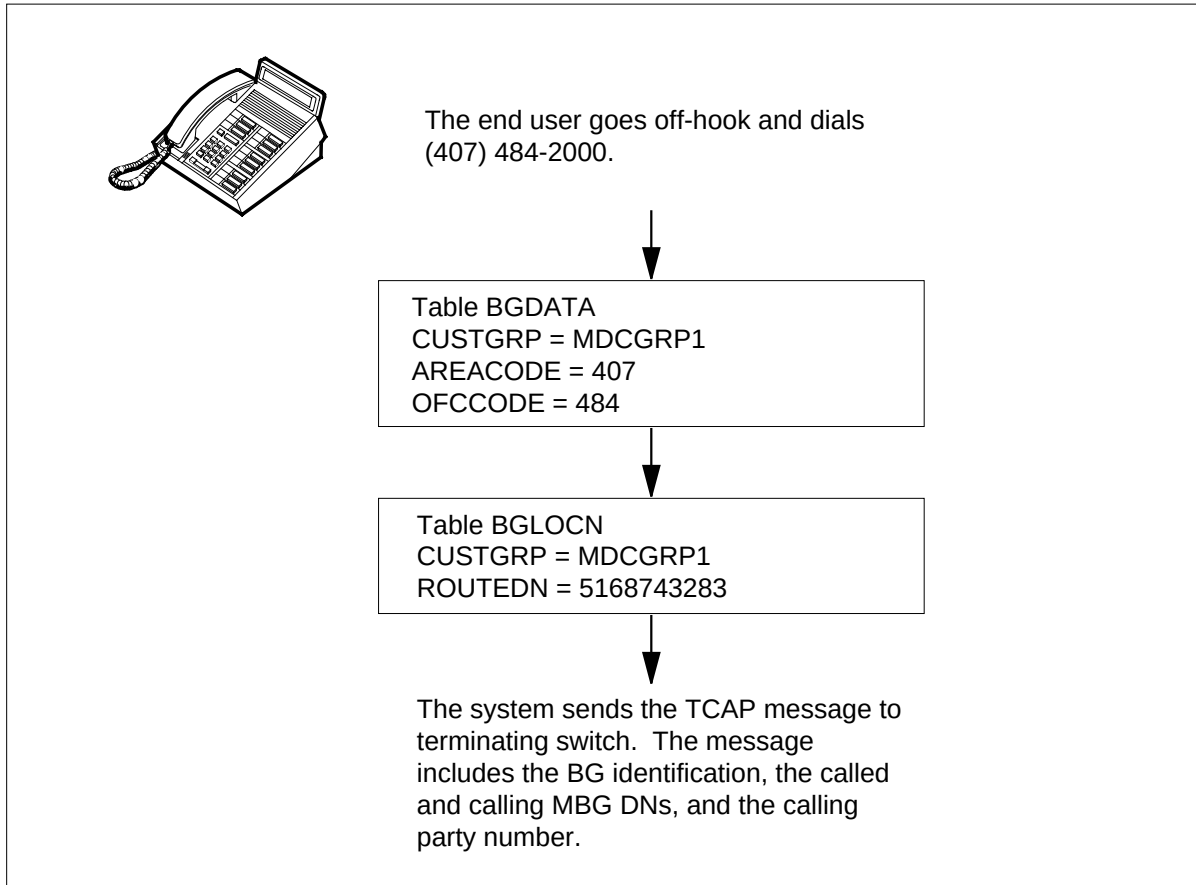
The MBG IV - Support of Network EMW translations tables appear in the following list:

- Table BGDATA (Business Group Data) stores business group-related information. This table allows each customer group to have a set of parameters associated with MBG calls.
- Table BGLOCN (Business Group Location) allows the mapping of an arbitrary location code of the network of the end user to DNs. The DNs are in the public numbering plan. You can use these DNs to establish a route to the switch serving that location code.

The MBG IV - Support of Network EMW translation process appears in the following flowchart.

MBG IV - Support of Network EMW (continued)

Table flow for MBG IV - Support of Network EMW



The datafill content of the flowchart appears in the following table. The customer group name is MDC GRP 1.

Datafill example for MBG IV - Support of Network EMW

Datafill table	Example data
BGDATA	LOCAL 1123 (407 484 2 3) \$ (CUSTGRP MDCGRP1 Y 0 Y 2 60) \$
BGLOCN	MDCGRP1 345 5168743283 10 \$

MBG IV - Support of Network EMW (continued)

Limits

The following limits apply to the MBG IV - Support of Network EMW feature:

- Network EMW operates when the end user dials the private number. The private number is the location code and the extension of the party.
- To route the TCAP message, field ROUTEDN in Table BGLOCN must contain ten digits.
- The system supports selector NET/LOC.

Interactions

The MBG IV - Support of Network EMW feature does not have functionality interactions.

Activation/deactivation by the end user

The MBG IV - Support of Network EMW feature does not require activation or deactivation by the end user.

Billing

The MBG IV - Support of Network EMW feature does not affect billing.

Station Message Detail Recording

The MBG IV - Support of Network EMW feature does not affect Station Message Detail Recording.

Datafilling office parameters

The MBG IV - Support of Network EMW feature does not affect office parameters.

Datafill sequence

The tables that require datafill to implement the MBG IV - Support of Network EMW feature appear in the following table. The tables appear in the correct entry order.

Datafill requirements for MBG IV - Support of Network EMW

Table	Purpose of table
BGDATA	Business Group Data Table. This table stores information that relates to multi-switch business groups (MBGs).

MBG IV - Support of Network EMW (continued)

Datafilling table BGDATA

Table BGDATA (Business Group Data) stores information about business groups. This table allows each customer group to have a set of parameters associated with MBG calls.

Datafill for the MBG IV - Support of Network EMW feature for table BGDATA appears in the following table. The fields that apply to the MBG IV - Support of Network EMW feature appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table BGDATA (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Description
BGXLA		see subfields	Business Group Translations. This field contains subfields AREACODE, OFCCODE, XFERCNT, and MBGCODE. This entry is a single-line entry.
	AREACODE	3 digit code	Area Code. This subfield specifies the serving numbering plan area. Enter the 3-digit code.
	OFCCODE	1 to 7 digit code	Office Code. This subfield specifies the office code. Enter the 1- to 7-digit code.
	XFERCNT	0 to 8	Transfer Count. This subfield specifies the number of digits to transfer when this subfield converts a public DN to an MBG DN. Enter a value from 0 to 8.
	MBGCODE	a maximum of 10 digits	MBG Code. This subfield specifies the digits that replace the area and office codes. Enter a maximum of 10 digits.
OPTIONS			Options. This field contains subfield OPTION.
	OPTION	CUSTGRP	Option. This subfield specifies the options assigned to a business group. Enter CUSTGRP to specify that a current IBN customer group must associate with the business group. The CUSTGRP option applies to this feature.
If OPTION is CUSTGRP, subfields CUSTGRP, MBG, NUMLINES, INTRAGRP, LSCFN, and LSCINCPT require datafill.			

MBG IV - Support of Network EMW (continued)

Datafilling table BGDATA (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Description
	CUSTGRP	alphanumeric	Customer Group. This subfield specifies the name of the IBN customer group that must associate with the business group. Enter the customer group name in Table CUSTENG (Customer Group Engineering) before you add the group name to Table BGDATA.
	MBG	Y or N	Multilocation Business Group Service. This subfield specifies if the lines in the customer group must have access to the MBG services. Enter Y or N.
	NUMLINES	0 to 32,767	Number of Lines. This read-only subfield displays the number of PDNs, the number of lines in the customer group, from 0 to 32,767. The system does not count secondary DNs as MBG lines.
	INTRAGRP	Y or N	Intragroupness. This subfield specifies the interaction of the feature with the MBG trunk. Enter Y if the call is intragroup. If the call is not intragroup, enter N.
	LSCFN	0 to 255	Line Screening Code. This subfield specifies the line screening code associated with the MBG trunk. The line screening code of a caller is not always in the group of codes associated with the MBG trunk. If the line screening code is not present, the caller cannot make an MBG call. Enter a value from 0 to 255.
	LSCINCPT	0 to 255	Line Screening Code Flexible Intercept. This subfield specifies the treatment number in table IBNTREAT (IBN Treatment) the system uses when the system blocks access to an MBG trunk. The system blocks access to an MBG trunk through a line screening code. Enter a value from 0 to 255.

Datafill example for table BGDATA

Sample datafill for table BGDATA appears in the following example.

MBG IV - Support of Network EMW (end)

MAP example for table BGDATA

BGID	BGXLA OPTIONS
LOCAL 1	
(CUSTGRP MDCGRP1 Y 0 Y 2 60) (NUMDIGS 2) (FACTYPE FX)\$	

Mapping DNs

The steps to map a physical DN to an MBG DN appear in the following paragraphs. The steps to map an MBG DN to a physical DN appear in the following paragraph.

Mapping from a physical DN

To map from a physical DN to an MBG DN, perform the following steps:

- Match the area code and office code of the physical DN to the values in subfields AREACODE and OFCCODE. These subfields appear in Table BGDATA, the MBG code.
- Copy the number of digits used as the transfer counter from the physical DN. Add the digits after the MBG code.

Mapping from an MBG DN

To map from an MBG DN to a physical DN, perform the following steps:

- Delete the number of digits used as the transfer counter from the MBG DN.
- Match the digits that remain with the MBG DN datafill in table BGDATA. The datafill in Table BGDATA contains the area code and office code.
- Add the number of digits that the system uses as the transfer counter after the area code and office code.

Tools for verifying translations

The MBG IV - Support of Network EMW feature does not use tools for verifying translations.

SERVORD

The MBG IV - Support of Network EMW feature does not use SERVORD.

Multilocation Business Group I

Ordering codes

Functional group ordering code: MDC00005

Functionality ordering code: does not apply

Release applicability

NA008 and later versions

Requirements

To operate, the Multilocation Business Group I feature has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- Base ISUP, ISP70001
- MDC Standard, MDC00003

Description

The Multilocation Business Group I feature is the first feature in a multiphase process. This feature provides features for Meridian Digital Centrex (MDC) customer groups. This feature provides features for customer groups defined on more than one DMS central office switch.

This feature allows different switches to use the same MDC features. Integrated services digital network (ISDN) user part (ISUP) IBN trunks that use public Common Channel Signaling 7 (CCS7) facilities link these switches together. A multilocation business group (MBG) provides feature transparency through CCS7 facilities to subscribers in multiple locations on different switches.

Operation

Descriptions of the ways in which an MBG call originates and routes appear in the following paragraphs.

MBG call origination

The system routes an MBG call over a public CCS7 facility with the identity of an associated customer group. This action occurs if the call meets the

Multilocation Business Group I (continued)

conditions for MBG subscription. The following conditions must be met to originate an MBG call:

- The customer group of the calling line must subscribe to MBG services. To subscribe to MBG services, enter data in table BGDATA and specify a customer group in option CUSTGRP.
- The system must route the call to an ISUP plain old telephone service (POTS) trunk. The system must not dial the direct outward dial (DOD) access code. Table IBNXLA (IBN Translation) defines a DOD access code with subfield TRSEL set to NET and subfield NETTYPE set to DOD.

If the call meets these two conditions, the system identifies the call as an MBG call. The system inserts business group (BG) parameter in the outgoing initial address message (IAM). This action allows the terminating office to complete the call. The content of the BG parameter appears in the following list:

- The line privilege information indicator (LPPI) is customer-defined LP present (1).
- The business group identifier (BGID) type is multilocation business group (0).
- The attendant status (AttSt) is always no indication (0).
- The party selector is calling number.
- Table BGDATA defines the BGID.
- The subgroup identifier is no indication (0).
- The system determines the line privilege (LP) from two locations. The first location is the internal network class of service (NCOS) of the calling line. The other location is option COSMAP in table CUSTNTWK (Customer Network). If Direct Inward System Access (DISA) applies, field LP contains the NCOS associated with the DISA feature.
 - If the customer group does not have option COSMAP assigned, the BG parameter uses the internal NCOS of the calling line as the LP.
 - If the customer group of the calling line has option COSMAP assigned, the internal NCOS maps to a network NCOS. The mapping occurs through table COSDATA (Class of Service Data). The mapping uses the name in subfield COSMOUT of option COSMAP. The mapping result is the LP in the BG parameter.

MBG call routing

The received IAM of an incoming call over an ISUP POTS trunk can contain a BG parameter. The receiving switch can have software that can act on the parameter. When these conditions apply, the system routes the call as an MBG call. The BGID specifies a customer group that specifies the translations and

Multilocation Business Group I (continued)

routing algorithms to complete the call. The entries in the customer group in table BGDATA also help specify the translations and routing algorithms.

If table BGDATA does not specify data, the incoming MBG call completes with POTS translations and routing algorithms. The system passes the BG parameter along in the outgoing IAM. For the call to complete, the called and calling party numbers must be in the public numbering plan.

Table BGDATA can contain data for the customer group with option CUSTGRP selected. The system uses the translation and routing data of that customer group to route the call. The system also uses the LP of the BG parameter to route the call. The BGID maps to a customer group through option CUSTGRP in table BGDATA.

The LP in the BG parameter can be set to customer-defined LP and option COSMAP in table CUSTNTWK. The system treats the LP as an NCOS. The LP maps to an internal NCOS through table COSDATA. Table COSDATA has the name in subfield COSMIN in option COSMAP of table CUSTNTWK. The derived information identifies translators for the customer group to complete the call. The option COSMAP in table CUSTNTWK is not present. The system records the contents of field LP as an internal NCOS. If the BG parameter contains the fixed LP, Multi-location Business Group I uses a default NCOS value to continue the call. The default NCOS value is 0.

If option PREXLA is in table BGDATA, each BG can specify an MBG translator to complete the MBG call. This option supersedes datafill with option CUSTGRP.

Note: Different BGs can use one translator.

Datafilling MBG traffic

An ISUP POTS trunk that replaces an ISUP IBN outgoing (IBNTO) or IBN two-way (IBNT2) trunk group type in a current route list can route MBG traffic. The trunk can perform this action if the customer group that uses that route is associated with a BG parameter. The customer group is associated with the BG parameter through table BGDATA. The system can route calls that the system routes over the ISUP IBN trunk group over the ISUP POTS trunk. The IAM of each of these calls contains a BG parameter that identifies the customer group of each call.

Multilocation Business Group I (continued)

Note the following points:

- The switch at the terminating end of the trunk group does not always support the BG parameter. If this condition applies, the call continues as a POTS call.
- The system can route current IBN traffic over ISUP POTS trunks. An ISUP POTS trunk group can handle overflow from an ISUP IBN trunk group. In this condition, the BG parameter allows overflow calls to remain associated with the customer group.
- Subsets of ISUP POTS trunks can carry MBG traffic. This subset includes the following trunk group types:
 - intertoll (IT)
 - toll incoming (TI)
 - toll outgoing (TO)
 - toll two-way (T2)
 - access to carrier (ATC)

Translations table flow

The Multilocation Business Group I feature does not affect translations table flow.

Refer to "ISUP Shared Trunking Enhancement" for information on the translations table flow for ISUP shared trunks.

Limits

The following limits apply to Multilocation Business Group I:

- Attendant Control of Trunk Group Access
- Attendant Trunk Group Busy Lamps
- Customer Subgroups
- Direct Inward System Access
- Direct Outward Dial Network
- Electronic Switching Network
- Line Screening Codes
- Network Class of Service
- Network Speed Calling
- Outward Wide Area Telephone Service

Multilocation Business Group I (continued)

- Private Network Dialing
- Remote Access to Attendant Console
- Tie Trunks
- Trunk Answer from Any Station
- Trunk Restrictions
- Virtual Facility Groups

Interactions

Descriptions of the interactions between the Multilocation Business Group I feature and other functionalities appear in the following paragraphs.

The Multilocation Business Group I feature does not affect the methods in which other features process calls. This feature supports the following features that ISUP IBN trunks support:

- Connected Name Display
- Connected Number Display
- Reason Display
- Network Ring Again

The customer group associated with the MBG identifier must allow the features from the previous description.

Activation/deactivation by the end user

The Multilocation Business Group I feature does not require activation or deactivation by the end user.

Billing

Although the Multilocation Business Group I feature does not affect Automatic Message Accounting (AMA) billing formats, this feature can generate billing records. See "Datafill procedure for table BGDATA" in this feature description for details.

Station Message Detail Recording

The Multi-location Business Group I feature can affect Station Message Detail Recording (SMDR). See "Datafill procedure for table BGDATA" in this feature description for details.

Multilocation Business Group I (continued)

Datafilling office parameters

Office parameter MAX_MBG_LINES controls the upper limit of MBG lines. The default value of this parameter in table OFCOPT is 1. This setting allows the addition of a maximum of 99 MBG lines. Table OFCOPT is a read-only table. Authorized Northern Telecom personnel can change this parameter.

Datafill procedure for MAX_MBG_LINES

Datafill for MAX_MBG_LINES appears in the following procedure. This parameter specifies the maximum number of MBG lines allowed. Northern Telecom personnel enter data in this parameter.

The office parameters that the Multilocation Business Group I feature uses appear in the following table. For additional information about office parameters, refer to *Office Parameters Reference Manual*.

Office parameters by Multilocation Business Group I

Table name	Parameter name	Description
OFCOPT	MAX_MBG_LINES	Office Option table. Specifies the number of MBG lines allowed in the office in units of 100. Enter a value from 0 to 1000. The default value is 1.
Note: The activation of this parameter is immediate. A restart is not required.		

Datafill sequence

The tables that require datafill to provide the Multilocation Business Group I feature appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Multilocation Business Group I

Table	Purpose of table
BGDATA	Business Group Data table. This table stores information that relates to MBGs.

Datafilling table BGDATA

Table BGDATA stores information for each business group that an office supports. A two-part key contains a location identifier and a group number identifier. The table contains a list of options. The business groups in the switch share a predefined set of default values.

Multilocation Business Group I (continued)

Table BGDATA parameters

Table BGDATA can define and store a set of parameters for each BG to complete an MBG call. Descriptions of these parameters and associated default values appear in the following sections.

- **CUSTGRP.** This option links a BG to a current IBN customer group. If selection of this option occurs in table BGDATA, the following three subfields require datafill:
 - **CUSTGRP.** This subfield specifies the name of the current IBN customer group to which the BG links.
 - **MBG.** This subfield specifies if the BG-to-customer-group link is for MBG services. Other services can also use the BG-to-customer link. Correct entries are Y and N.
 - **NUMLINES.** This subfield specifies the number of primary directory numbers (PDN) in the customer group. The system enters data in this subfield. You cannot change this subfield.
- **BILLDN.** This option specifies a billing directory number (DN) for calls that originate from MBG trunks with the associated BG parameter. This option applies if this parameter specifies option CUSTGRP. This option does not have a default value.
- **BGMDR.** This option specifies that the system must generate business group message detail recordings (BGMDR). The system must generate BGMDR for the calls that originate from a line and terminate to an MBG trunk. This option applies if this parameter specifies option CUSTGRP. The value for option BILLDN does not appear in these records. The default value is N.
- **DSR.** This option specifies trunk distinctive ringing (DSR) for the calls that originate from MBG trunks with the associated BG parameter. This option applies if this parameter specifies CUSTGRP. The default value is N.
- **SMDR.** This option activates SMDR for calls that originate from MBG trunks with the associated BG parameter. This option applies if this parameter specifies option CUSTGRP. The default value is N.
- **NUMDIGS.** This option specifies the number of location digits for the customer group. This option applies if this parameter specifies option CUSTGRP.
- **FACTYPE.** This option activates special billing for the customer group. This option applies if this parameter specifies option CUSTGRP.
- **FIXPRIV.** This option sets the LPII field to Fixed Line Privileges and the Line Privileges field to 00. These fields appear in the information of each

Multilocation Business Group I (continued)

calling party in the BG parameter. The message does not include the NCOS.

Datafill for the Multilocation Business Group I feature for table BGDATA appears in the following table. The fields that apply to the Multilocation Business Group I feature appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table BGDATA (Sheet 1 of 5)

Field	Subfield or refinement	Entry	Description
BGID		see subfields	Business group identifier. This field consists of subfields LOCATION and GRPNUM. This field is a single-line entry.
	LOCATION	LOCAL	Location. This subfield specifies the location of the business group to which MBG is assigned. Enter LOCAL.
	GRPNUM	0 to 4 194 303	Group number. This subfield specifies the business group to which MBG is assigned. Enter a value from 0 to 4 194 303.
BGXLA		see subfields	Business group translations. This field contains subfields AREACODE, OFCCODE, XFERCNT, and MBGCODE. This field is a single-line entry.
	AREACODE	3-digit code	Area code. This subfield specifies the serving numbering plan area. Enter the three-digit code.
	OFCCODE	1- to 7-digit code	Office code. This subfield specifies the office code. Enter the 1 to 7 digit code.
	XFERCNT	0 to 8	Transfer count. This subfield specifies the number of digits to transfer when you convert a public DN to an MBG DN. Enter a value from 0 to 8.
	MBGCODE	a maximum of 10 digits	MBG code. This subfield specifies the digits that replace the area and office codes. Enter a maximum of 10 digits.

Multilocation Business Group I (continued)

Datafilling table BGDATA (Sheet 2 of 5)

Field	Subfield or refinement	Entry	Description
OPTIONS		see subfield	Options. This field contains subfield OPTION.
	OPTION	CUSTGRP and BILLDN, BGMDR, DSR, SMDR, NUMDIGS, FACTYPE, FIXPRIV	Option. This subfield specifies the option assigned to a business group. Enter CUSTGRP and other options. Enter CUSTGRP to specify that a current IBN customer group associates with the business group. Enter data in refinements CUSTGRP, MBG, NUMLINES, INTRAGRP, LSCFN, and LSCINCPT. Note: If the BGID is LOCAL 1 and the entry is CUSTGRP, the following message appears. The system allows the assignment of CUSTGRP. WARNING: LOCAL 1 IS RESERVED FOR PUBLIC NETWORK IDENTIFIER. THE CUSTGRP OPTION SHOULD NOT BE ASSIGNED TO LOCAL 1. Enter BILLDN to specify the billing DN of MBG calls. Enter refinement DN. Enter BGMDR to specify that the system must generate BGMDRs. The system must generates BGMDRs for calls that originate from a line and terminate to an MBG trunk. You do not need to enter data in other refinements. Enter DSR to activate the DSR option for calls that originate from the specified customer group. You do not need to enter data in other refinements.

Multilocation Business Group I (continued)

Datafilling table BGDATA (Sheet 3 of 5)

Field	Subfield or refinement	Entry	Description
			Enter SMDR to activate SMDR for calls that originate from the specified customer group. You do not need to enter data in other refinements. Enter NUMDIGS to specify the number of location digits used in the customer group network. Enter data in refinement NUMLDIGS. Enter FACTYPE to activate special billing for the specified customer group. Enter data in refinement FACTYPE. Enter FIXPRIV to set the LPII field to Fixed Line Privileges and the Line Privileges field to 00. These fields appear in the information for each party present in the BG parameter. The message does not include the NCOS.
	If OPTION is CUSTGRP, enter data in refinements CUSTGRP, MBG, NUMLINES, INTRAGRP, LSCFN, and LSCINCPT.		
	CUSTGRP	alphanumeric (1 to 16 characters)	Customer group. This refinement specifies the name of the IBN customer group associated with the business group. Enter the customer group name in table CUSTENG first.
	MBG	Y or N	Multilocation business group service. This refinement specifies if the lines in the customer group can access the MBG services. Enter Y or N.
	NUMLINES	0 to 65 535	Number of lines. This read-only refinement displays the number of primary DNs that range from 0 to 65 535. The number of DNs is the number of lines in the customer group. Secondary DNs are not MBG lines.
	INTRAGRP	Y or N	Intragroup. This refinement specifies the interaction of the feature with the MBG trunk. Enter Y if the call is intragroup. Enter N, if the call is not intragroup.

Multilocation Business Group I (continued)

Datafilling table BGDATA (Sheet 4 of 5)

Field	Subfield or refinement	Entry	Description
	LSCFN	0 to 255	Line screening code flag number. This refinement specifies the line screening code associated with the MBG trunk. The caller must have the line screening code in the group of codes associated with the MBG trunk to make an MBG call. Enter a value from 0 to 255.
	LSCINCPT	0 to 63	Line screening code flexible intercept. This refinement specifies the treatment number used in table IBNTREAT. The system uses the treatment when a line screening code blocks access to an MBG trunk. Enter a value from 0 to 63.
If OPTION is BILLDN, enter data in refinement DN.			
	DN	1 to 11 digit value	Directory number. This refinement specifies the billing DN for calls that originate from MBG trunks with the associated BG parameter. Enter a 1 to 11 digit value.
If OPTION is NUMDIGS, enter data in refinement NUMLDIGS.			
	NUMLDIGS	1 to 5	Number of location digits. This refinement specifies the number of location digits in the customer group. Enter a value from 1 to 5.

Multilocation Business Group I (continued)**Datafilling table BGDATA (Sheet 5 of 5)**

Field	Subfield or refinement	Entry	Description
If OPTION is FACTYPE, enter data in refinement FACTYPE.			
	FACTYPE	CCSA, TDMTT, FX, or ETS	Facilities (special billing) type. This refinement specifies the type of special billing for the customer group. Enter CCSA to generate a call code 021 record, structure codes 0001, 0002, and 0101. Enter ETS to generate a call code 085 record, structure codes 001, 002, and 0101. Enter FX to generate a call code 011 record, structure codes 0500, 0001, 0002, and 0101. Enter TDMTT to generate a call code 032 record, structure codes 0025 and 0125.

Datafill example for table BGDATA

Sample datafill for table BGDATA appears in the following example.

MAP example for table BGDATA

BGID	BGXLA OPTIONS
LOCAL 1233	(407 484 2 3) \$ (CUSTGRP MDCGRP1 Y 0 Y 2 60) \$

Related tables

Several tables can require different datafill to provide ISUP shared trunks to replace current private facilities. See "ISUP Shared Trunking Enhancement" for details on data entry in related tables.

Tools for verifying translations

The translation verification (TRAVER) utility can verify the values of a BG parameter. For line originations, the system can select an ISUP POTS trunk

Multilocation Business Group I (continued)

and the IAM can contain a BG parameter. When these conditions apply, TRAVER displays the BGID and the line privilege values of that parameter. For ISUP trunk originations, the end user can specify the BGID and LP values. These values are in the BG parameter of the incoming IAM.

The output from TRAVER verification of the Multilocation Business Group I feature appears in the following example.

The use of TRAVER for an outgoing IBN call that the system routes over a POTS trunk appears in the first example. The use of TRAVER for an incoming call appears in the second example.

Multilocation Business Group I (continued)**TRAVER output example for Multilocation Business Group I - outgoing call**

```

>TRAVER L 7774114 63323114 B
1  TABLE KSETLINE
2  HOST 00 1 18 08 2 DN Y 7774114 CENTESN 0 0 613 (3WC) (LNR) (PRK) $
3  TABLE DNATTRS
4  613 777 4114
5      (PUBLIC ( NAME CENT_PTY_4) $) $
6  TABLE DNGRPS
7  TUPLE NOT FOUND
8  TABLE NCOS
9  CENTESN 0 0 0 CESN ( OHQ 0 TONE_QHQ) ( CBQ 0 3 N 2) ( ERWT )
10 ( ACR N)$
11 TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND
12 DIG
13 CENTESN CESN CESN FTCOMM 0 CEN
14 TABLE DIGCOL
15 CEN 6 RPT
16 NCOS PRELIM XLA name is NIL. Go to next XLA name.
17 TABLE IBNXLA: XLANAME CESN
18 CESN 6 NET N Y 1 N NDGT N Y GEN ( LATTR 157) (LOGNET PUBLIC)$
19 TABLE DIGCOL
20 NDGT specified: digits collected individually
21 TABLE LINEATTR
22 157 IBN NONE NT E613 0 311 P311 L311 TSPS N 0 NIL NILSFC NILLAT
23 A 0 NIL
24 TABLE STDPRTCT
25 P311 ( 1) ( 0)
26 . SUBTABLE STDPRT
27 . 3 9 N NP 0 NA
28 . SUBTABLE AMAPRT
29 . KEY NOT FOUND
30 . DEFAULT VALUE IS: NONE N
31 TABLE HNPACONT
32 311 10 1 ( 8) ( 1) ( 9)
33 .SUBTABLE HNPACODE
34 .3323 3323 HRTE 1
35 .SUBTABLE RTEREF
36 . 1 T IBNRTE 51
37 . .TABLE IBNRTE
38 . . 51 N Y N N CENBRAEOIS 60
39 . . . TABLE DIGMAN
40 . . . 60 (NEX 30)
41 . . . TABLE DIGMAN
42 . . . 30 (IFCC SAT Y 31) (INC 1) (FLD COS 2 ONCOSMAP)

```

Multilocation Business Group I (continued)

TRAVER output example for Multilocation Business Group I - outgoing (continued)

```

43      .      .      .      .      .      TABLE DIGMAN
44      .      .      .      .      .      31 (INC 41) (FLD COS 2 ONCOSMAP)
45      .      .      .      .      .      EXIT TABLE DIGMAN
46      .      .      .      .      .      EXIT TABLE DIGMAN
47      .      .      .      .      .      EXIT TABLE DIGMAN
48      .      .      .      .      .      T IBNRTE 14
49      .      .      .      .      .      EXIT TABLE IBNRTE
50      .      .      .      .      .      EXIT TABLE RTEREF
51      EXIT TABLE HNPACONT
52      TABLE BGDATA
53      LOCAL 1235 (CUSTGRP MDCGRP1) (SMDR) $
54      TABLE LCASCRCN
55      311 L311 ( 7) OPTL N
56      .      .      .      .      .      SUBTABLE LCASCR
57      .      .      .      .      .      332 335
58      TABLE PFXTREAT
59      OPTL NP Y NP UNDT
60      TABLE CLSVSCRC
61      KEY NOT FOUND
62      DEFAULT IS TO LEAVE XLA RESULT UNCHANGED
63      LATA IS NIL, THEREFORE NOT AN EQUAL ACCESS CALL
64
65      +++ TRAVER: SUCCESSFUL CALL TRACE +++
66
67      DIGIT TRANSLATION ROUTES
68
69      1 CENBRAE0IS      1003323114      BGID LOCAL 1235 LP 0
70
71      TREATMENT ROUTES. TREATMENT IS: GNCT
72      1 *OFLO
73      2 LKOUT
74
75      +++ TRAVER: SUCCESSFUL CALL TRACE +++

```


Multilocation Business Group I (continued)

TRAVER output example for Multilocation Business Group I -incoming

```

1  >TRAVER TR BRACENEIIS 1003323114 B BGID LOCAL 1235 LP 0
2  TABLE TRKGRP
3  BRACENEIIS IBNTI 0 ELO NCRT BRAMESN 0 1 9963111 ANSDISC 0 N N N
4  N N Y
5  N N N $ $
6  TABLE BGDATA
7  7B9 CUSTGRP MDCGRP1 SMDR CDR $
8  TABLE NCOS
9  BRAMESN 1 0 0 BESN ( XLAS PESN NXLA NDGT) ( OHQ 0 TONE_OHQ)$
10 TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT,
11 AND DIG
12 BRAMESN BRSN BRSN FTCOMM 0 BRA
13 TABLE DIGCOL
14 BRA 1 COL S 2
15 TABLE IBNXLA: XLANAME PESN
16 PESN 1 PROTO 13 1 3 18
17 TABLE PACMAN
18 13 (FLD COS 2 INCOSMAP) (END )$
19 NEW NCOS:      3    PREFIX FENCE:      3
20 TABLE IBNXLA:      XLANAME NRS2
21 NRS2 3 NET N N 0 Y NDGT N N ESN Y 158
22 TABLE DIGCOL
23 NDGT specified: digits collected individually
24 TABLE LINEATTR
25 158 IBN NONE NT E416 0 312 P312 L312 TSPS N 0 NIL NILSFC NILLAT
26 A 0 NIL
27 TABLE STDPRTCT
28 P312 ( 1) ( 0)
29 .    SUBTABLE STDPRT
30 .    3 9 N NP 0 NA
31 .    SUBTABLE AMAPRT
32 .    KEY NOT FOUND
33 .    DEFAULT VALUE IS:NONE  N
34 TABLE HNPACONT
35 312 10 1 ( 7) ( 1) ( 8)
36 .    SUBTABLE HNPACODE
37 .    3323 3323 HRTE 6
38 .    SUBTABLE RTEREF
39 .    6 T IBNRTE 65

```

Multilocation Business Group I (end)

TRAVER output example for Multilocation Business Group I - incoming (continued)

```

39      .      .      TABLE IBNRTE
40      .      .      65 RX BRAMESN 0 0 38
41      .      .      TABLE DIGMAN
42      .      .      38 (REM 3)
43      .      .      EXIT TABLE DIGMAN
44      .      .      EXIT TABLE INBRTE
45      .      .      EXIT TABLE RTEREF
46      EXIT TABLE HNPACONT
47      TABLE LCASCRCN
48      312 L312 ( 2) OPTL N
49      .      SUBTABLE LCASCR
50      .      332 335
51      TABLE PFXTREAT
52      OPTL NP Y NP UNDT
53      TABLE CLSVSCRC
54      KEY NOT FOUND
55      DEFAULT IS TO LEAVE XLA RESULT UNCHANGED
56
57      +++ TRAVER: SUCCESSFUL CALL TRACE +++
58
59
60      DIGIT TRANSLATION ROUTES
61
62      1 LINE  4169963114  ST
63
64      TREATMENT ROUTES. TREATMENT IS: GNCT
65      1 T120
66
67      +++ TRAVER: SUCCESSFUL CALL TRACE +++

```

SERVORD

The Multilocation Business Group I feature does not use SERVORD.

4 Datafilling MDC MBG Standard

The following chapter describes the MDC MBG Standard, MDC00006, functionality.

Calling Number and NCOS Display on Attendant Console

Ordering codes

Functional group ordering code: MDC00006

Functionality ordering code: does not apply

Release applicability

NA011 and later versions

Requirements

To operate, Calling Number and NCOS Display on Attendant Console has the following requirements:

- TEL CCS7 Base, TEL00008
- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC Standard, MDC00003
- MDC MBS Minimum, MDC00007
- Base ISUP, ISP70001

Description

Calling Number and NCOS Display on Attendant Console shows the calling number and network class of service (NCOS) to the attendant console (AC) for network calls. These network calls are Common Channel Signaling No. 7 (CCS7) calls.

Calling Number and NCOS Display on Attendant Console shows the calling line identification (CLID) and NCOS on the AC. Feature F7183, NCOS and CLID Display on AC-II (AD1154), adds redirected trunk calls and a like display for interactive features. Feature F7183 is a continuation of the Calling Number and NCOS Display on Attendant Console feature. Feature F7360, Network CLID and NCOS Display Interaction with 3WC (AD1525), provides network CLID and NCOS display for three-way calling (3WC) and call transfer. Feature F7360 is an additional continuation of the Calling Number and NCOS Display on Attendant Console feature. Each of the display features is in the Network Attendant Services (NAS) feature package. This feature description details the three features.

This feature provides incoming directory number and class of service to the attendant. This action improves the performance of the call-handling production of the attendant. Calling Number and NCOS Display on Attendant Console allows an AC to display the directory number (DN) and NCOS of an

Calling Number and NCOS Display on Attendant Console (continued)

incoming call. The incoming call is from the same customer group that the system routed over an ISDN User Part (ISUP) trunk.

The NCOS and CLID Display on AC-II feature (AD1154) processes attendant features that affect the presentation of CLID. This condition occurs when the call is over an ISUP trunk. The NCOS and CLID Display on AC-II makes sure like displays are present. The features the system initiates and the source of the call do not affect this action. In this feature description, the ISUP trunk includes plain old telephone service [POTS] and IBN.

The Network CLID and NCOS Display Interaction with 3WC feature (AD1525) provides the AC with the capability to display call information. The network can display the network CLID and NCOS of calls involved in 3WC and call transfer conferences over ISUP trunks. The feature makes sure that specified console display updates function like the updates of nodal calls. These console display updates involve 3WC or call transfer and ISUP trunks. For this action, 3 WAY CALL message only can appear in the following condition. The third party must join in the conference with the attendant.

Operation

Calling Number and NCOS Display on Attendant Console provides a display of the CLID and NCOS of an incoming call over an ISUP trunk. To provide this display, this feature inserts the optional network information (NETINFO) ISUP parameter in the initial address message (IAM). The NETINFO parameter is in the IAM when the following two conditions occur:

- The originator must be an IBN line.
- The originating customer group must have an associated entry in Table CUSTNTWK (Customer Group Network).

When the ISUP call terminates on an AC, the system extracts the NETINFO parameter. The ISUP trunk can be in the same customer group as the attendant. When this condition occurs, the system displays the NCOS and CLID of the originator.

In a network environment, identification of the groups and classes must be in the network. This condition allows features that depend on customer group or NCOS information to function correctly. Common membership information on members of a customer group that is on several switches must be available. This information must be available to each of the switches.

Entries of customer group occur in each switch. Entries include a network-common, alphanumeric customer group name and a sequential datafill number. Call processing uses the local assigned identification. The IDs are not different across the network because the numbers depend on the

Calling Number and NCOS Display on Attendant Console (continued)

order of data entry in each switch. Calling Number and NCOS Display on Attendant Console provides a method to map local customer group IDs. This method maps IDs to a different, network-wide, customer group identification through use of Table CUSTNTWK. Table CUSTNTWK associates a customer group with the network name NETNAME in table NETNAMES (Internal Logical Network Names). Table CUSTNTWK assigns a network customer group ID (NETCGID) in the network to that customer group. Provision of the NETNAME and NETCGID information occurs during communications with another node.

The NCOS information does not require this mapping because the NCOS has a numerical identification in customer groups. The datafill for each switch in the network uses a network-wide assignment of NCOS on which members agreed.

Sample datafill for two nodes, A and C, in a network appears in the following figures. Datafill of table CUSTNTWK and the NETCGID field and the relationship across the network appear in the figures. The maximum precedence level associated with SDCOS 2 of Customer Group 0 is 0 for flash override (FO).

Node A datafill example

Table CUSTENG (logical view)

CUSTNAME	Other Info	CGID
CENTRAL	.	0
MARITIME	.	1
MIDWEST	.	2

Table CUSTNTWK

CUSTNAME	NETNAME	NETCGID
CENTRAL	EASTNET	1
MARITIME	EASTNET	2
MIDWEST	WESTNET	1

Table SDCOS

CUSTNAME	SDCOS	MAXPREC
.		
MIDWEST	2	0 . . .

Table IBNLINES

Line ID Info	CUSTNAME	NCOS .	
.	.	.	.
Line A	MIDWEST	4	.

Calling Number and NCOS Display on Attendant Console (continued)

Node C datafill example

Table CUSTENG (logical view)		CGID	Table CUSTNTWK		
CUSTNAME	Other Info		CUSTNAME	NETNAME	NETCGID
MIDWEST	.	0	CENTRAL	EASTNET	1

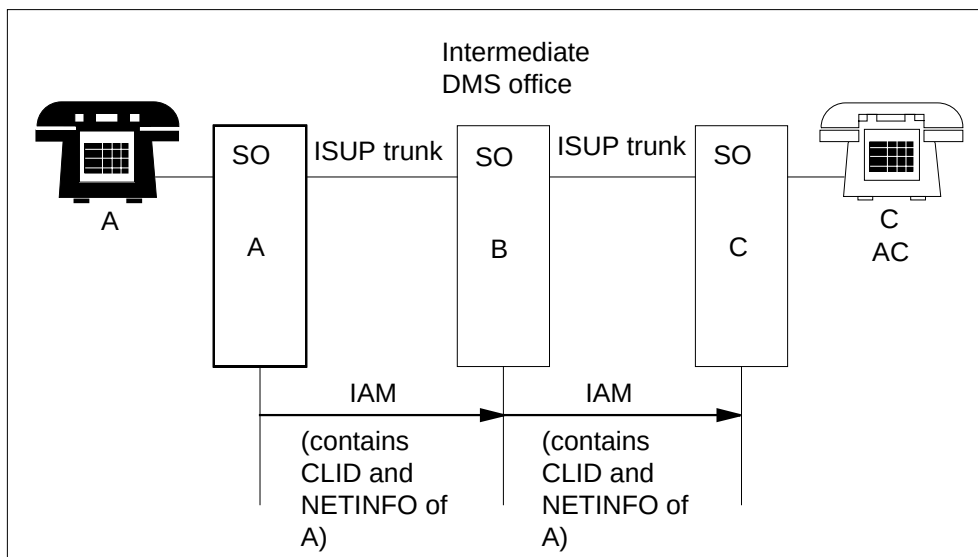
Table SDCOS			
CUSTNAMES	SDCOS	MAXPREC	
. .			
MIDWEST	2	0	. . .

IBN network call with DMS intermediate node

In ISUP trunks, the IAM replaces the origination and digits dialed messages. The IAM contains a fixed part and an optional part. The fixed part contains fields that are present in every IAM. Placement of additional information can occur in the optional part. The optional part now includes the CLID of an IBN line. Calling Number and NCOS Display on Attendant Console makes an addition to the optional part. This addition is the network information (NETINFO) of an IBN line, which includes NETNAME, NETCGID, and NCOS. The IAM flows through a network with end-to-end ISUP signaling and an intermediate DMS switching office (SO). An example of this condition appears in the following figure.

Calling Number and NCOS Display on Attendant Console (continued)

Network call with end-to-end ISUP signaling and intermediate DMS switching office



When a call terminates on an AC from an ISUP trunk, the system extracts information from the IAM. This information includes the CLID, network name, network customer group, and NCOS of the originating IBN line. The system loads the CLID to the console display buffer. The software scans table CUSTNTWK for an entry with the equivalent NETNAME and NETCGID entries. The software extracts the local customer group ID. The local customer group that results can be the same as the local group of the AC. When this condition occurs, the system displays the NCOS. For a Scopodial line, the system displays the SDCOS of the calling line. If the calling line is not in the same customer group as the attendant, the software displays the default trunk common language location identifier (CLLI). For any other conditions, the NCOS and SDCOS appear in this CLLI.

The AC display buffer can hold a maximum of 32 characters in two lines. Each line has 16 characters. Only one line of 16 characters can appear at one time on the console. The attendant uses the DSP function key to toggle between the two lines. The display buffer loads the NCOS and SDCOS in the right half of the first line. The display buffer loads the CLID in the second line. This process is like the process for calls in the same node. These calls are nodal calls. Seven digits appear if the CLID of the originator is in the same area code. In other conditions, the ten-digit number appears. The left half of the first line is for the associated ICI_DATA key name in table ICIDATA (Incoming Call Identification Data).

Calling Number and NCOS Display on Attendant Console (continued)

If the line does not have an associated SDCOS, that section of the buffer remains blank. The CLID can be not present and the NETINFO parameter is available. When this condition occurs, the feature displays the NCOS and SDCOS. The calling line section of the display remains blank.

The logical view of the NETINFO parameter appears in the following figure. The logical view of the NETINFO parameter transports the external network ID assigned to the network name in table NETNAMES. Assignment of that external network ID to the same network on the terminating switch must occur.

Illustration of CLID and NCOS display on AC

Line A (2145551111) of node A calls AC of node

C.

Node A builds an initial address message (IAM) containing:

IAM fixed part
Called party address (node C AC)
Nature of connection indicators
Calling party category (CPC)
IAM optional part
CLID parameter 2145551111
NETINFO parameter WESTNET 001
04

The IAM arrives at node C. System extracts CLID and customer group or NCOS from IAM when attendant answers call.

AC display follows:

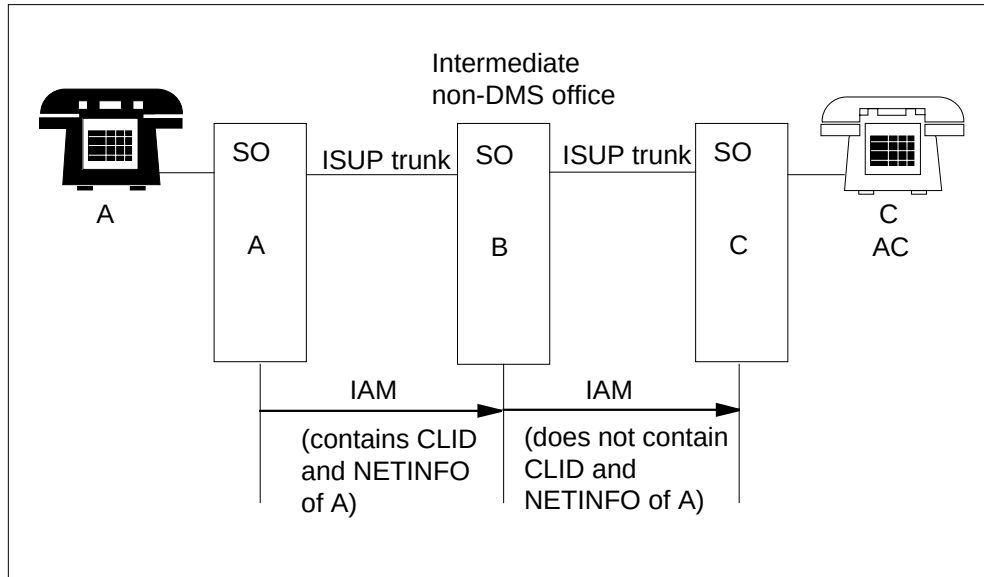
DIAL0 MGMT FO

Attendant presses DSP function key:

2145551111

IBN network call with non-DMS intermediate node

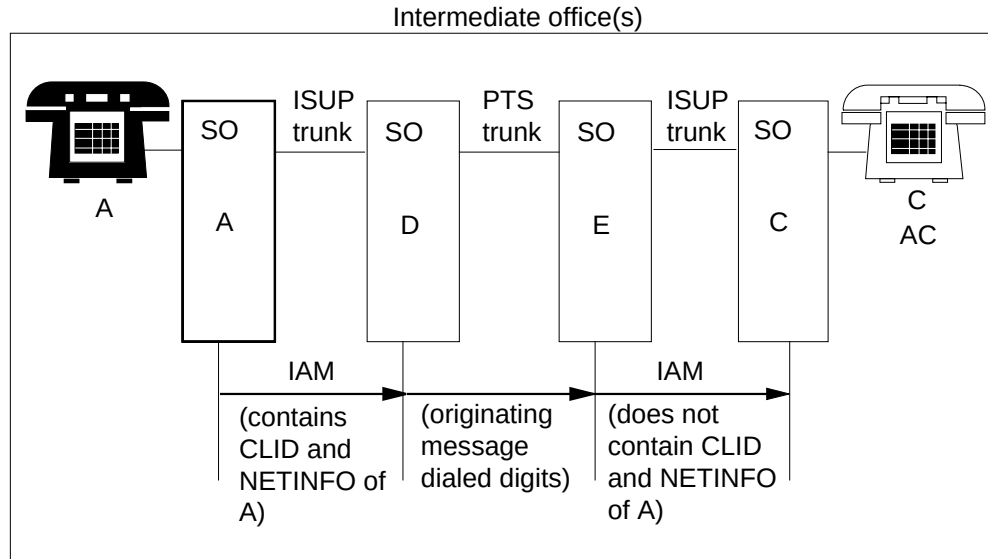
Placement of the information Calling Number and NCOS Display on Attendant Console requires is in the optional part of the IAM. An office that is not DMS does not always forward the optional part in the original form of the part. Current standards dictate that the system must forward the optional part of an IAM through an intermediate node. An intermediate node can fail to use this method. When this condition occurs, the feature does not support CLID and NCOS displays. That possibility appears in the following figure.

Calling Number and NCOS Display on Attendant Console (continued)**Network call with end-to-end ISUP signaling and non-DMS intermediate office****IBN network call without end-to-end ISUP signaling**

Calling Number and NCOS Display on Attendant Console requires end-to-end ISUP signaling. The terminating switch requires this signaling to recognize the originator network information. The system does not forward the originating IAM with the CLID and NETINFO when the signaling in use is per trunk signaling (PTS). Use of PTS can occur instead of end-to-end ISUP signaling. The PTS multiplexes the control signal with voice over the same trunk. This condition appears in the following figure.

Calling Number and NCOS Display on Attendant Console (continued)

Network call without end-to-end ISUP signaling

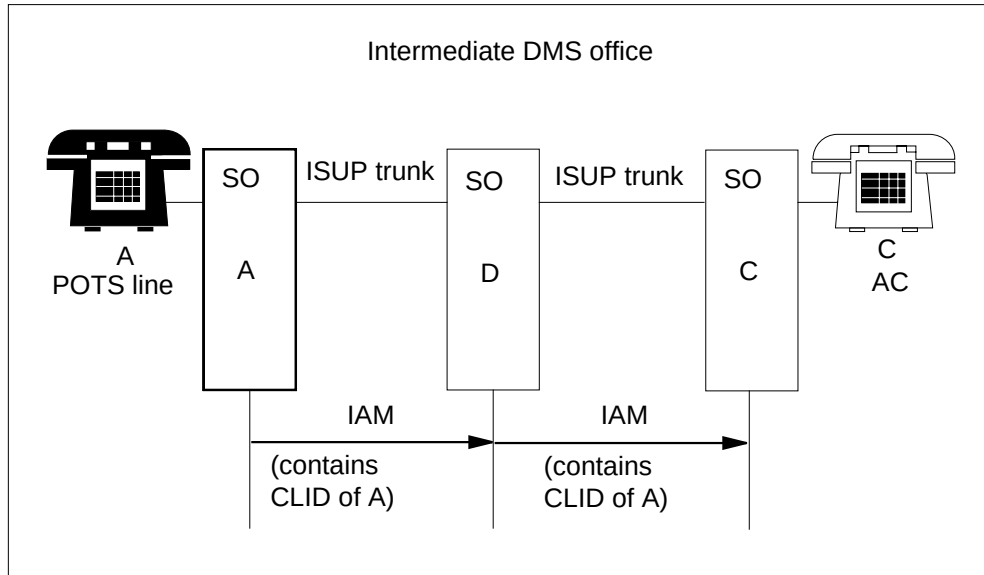


POTS line call with end-to-end ISUP signaling

A POTS line does not carry the NETINFO parameter. A POTS line inserts the CLID in the IAM optional part. A POTS line call can use an ISUP trunk and terminates on an AC. When this condition occurs, the software displays the default trunk CLLI on the first line. The software displays the CLID on the second line of the display buffer. A POTS line call through intermediate DMS offices with end-to-end ISUP signaling appears in the following figure.

Calling Number and NCOS Display on Attendant Console (continued)

POTS line call with end-to-end ISUP signaling and DMS intermediate offices



Operation for AD1154

A number of attendant features affect the presentation of CLID on the AC. The NCOS and CLID Display on AC-II feature makes sure of like display functionality when an ISUP trunk interacts with each feature. An explanation of this process appears in the following sections.

Attendant Console hold loop key

To retrieve a call placed on hold earlier, an attendant presses the Loop key associated with the call. The attendant retrieves the original ISUP call from the held Loop key. When this event occurs, the feature displays the CLID followed by the NCOS of the originator. This operation is like the operation in the normal AC node. In the normal AC mode, only one line of information appears. The NCOS and CLID Display on AC-II feature allows the attendant to display an alternate line of information. This information contains the CLID followed by the NCOS of the other party. The attendant presses the Display (DSP) key to display this line of information. The attendant can use the DSP key to toggle between the two lines of the display buffer.

Direct Inward System Access (DISA) calls

The Direct Inward System Access (DISA) feature applies to an outside caller, POTS, or other customer group. The DISA provides these groups complete access to the facilities of an IBN customer group. Normally, the outside caller dials an authorization code to provide identification. Assignment of the NCOS associated with the authorization code occurs. The caller can use the customer group facilities associated with that NCOS only.

Calling Number and NCOS Display on Attendant Console (continued)

With BCS25, the customer can enter an NCOS against a DISA directory number (DN). A caller can dial a DISA entered number and an authorization code can be not required or given. When this condition occurs, that NCOS associates with the call. An authorization code can be not a requirement when the customer does not enter an NCOS option against the DISA DN. When this condition occurs, call processing reverts to associating the call with the default external NCOS (EXTNCOS) of the customer group.

A DISA subscriber can initiate a call over an ISUP trunk. When this condition occurs, the NCOS and CLID Display on AC-II feature performs the following action. The feature inserts the NCOS in the NETINFO parameter in the IAM of the calling party. The methods the previous paragraph describes determine the NCOS. The correct NCOS appears if the call terminates on an AC.

Call forwarding

For a call forwarded over an ISUP trunk, the AC displays the CLID and NCOS of the originator. The IAM contains the CLID in the calling party address parameter. The NCOS and CLID Display on AC-II feature inserts the originating network customer group and class of service in the calling party NETINFO parameter.

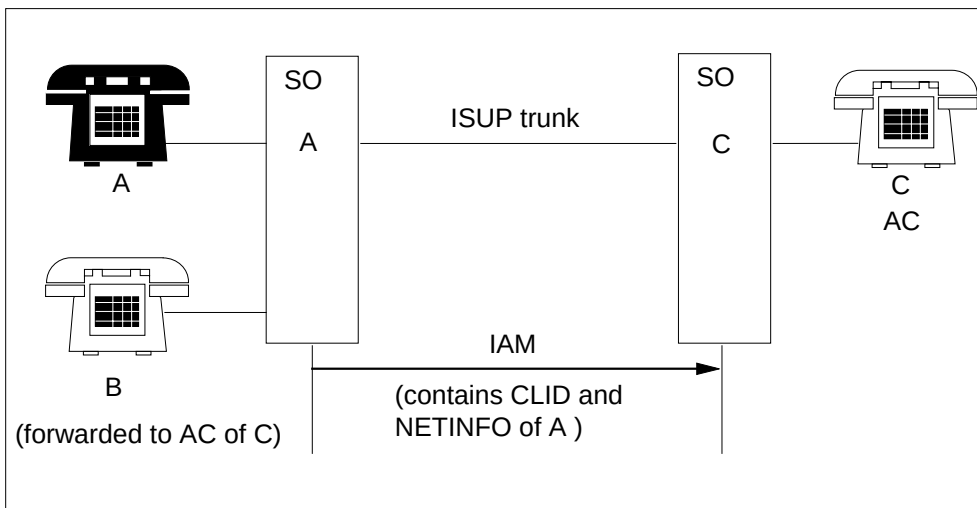
Calling Number and NCOS Display on Attendant Console allows calls the system forwards over ISUP trunks to an AC to terminate one of three keys. These calls can terminate on a Call Forward Universal (CFW), Call Forward Busy (CFB), or Call Forward Don't Answer (CFD) incoming call identifier (ICI) key. A visual indicator light appears on the call forward ICI key.

The methods that forward trunk calls to an AC appear in the following three diagrams. In each condition, the CLID and NCOS of the originator appear on the display, like the display of a directly dialed call. In each event, A calls B and the system forwards the B line to the AC of C.

A call from A that B forwards over an ISUP trunk to the AC of C appears in the following figure.

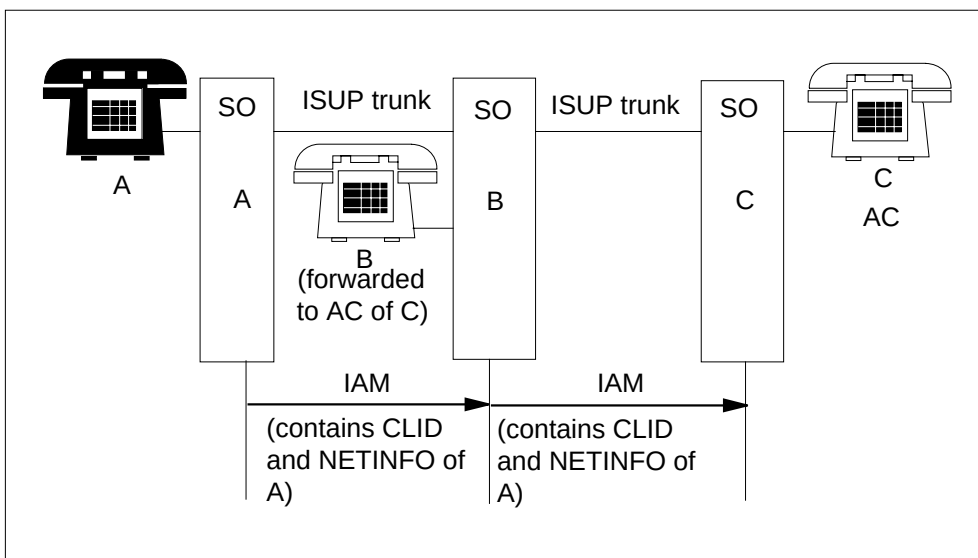
Calling Number and NCOS Display on Attendant Console (continued)

Call forwarded over ISUP trunk to AC



A call from A that B forwards through a tandem node to the AC of C appears in the following figure.

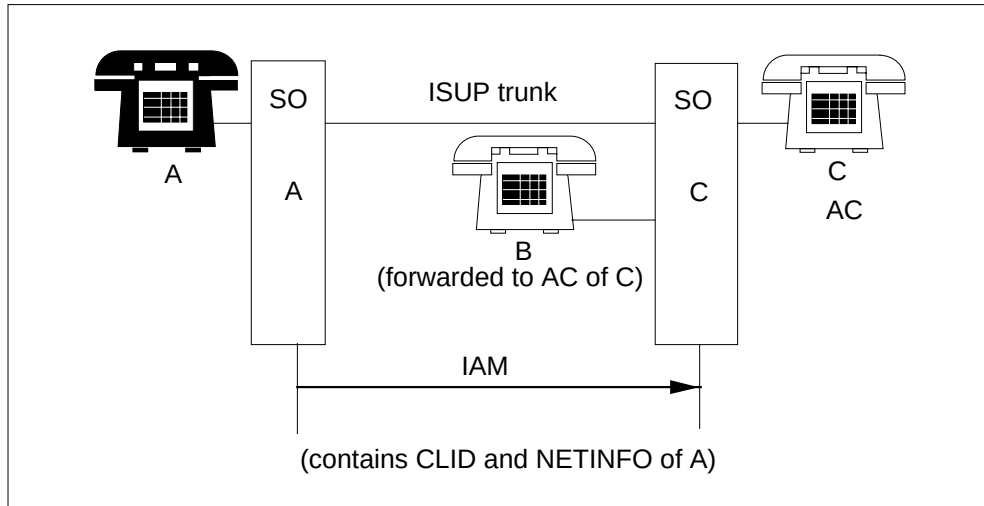
Call forwarded over ISUP trunk to AC from party at tandem node



A call from A that B forwards in the same node as the AC of C appears in the following figure.

Calling Number and NCOS Display on Attendant Console (continued)

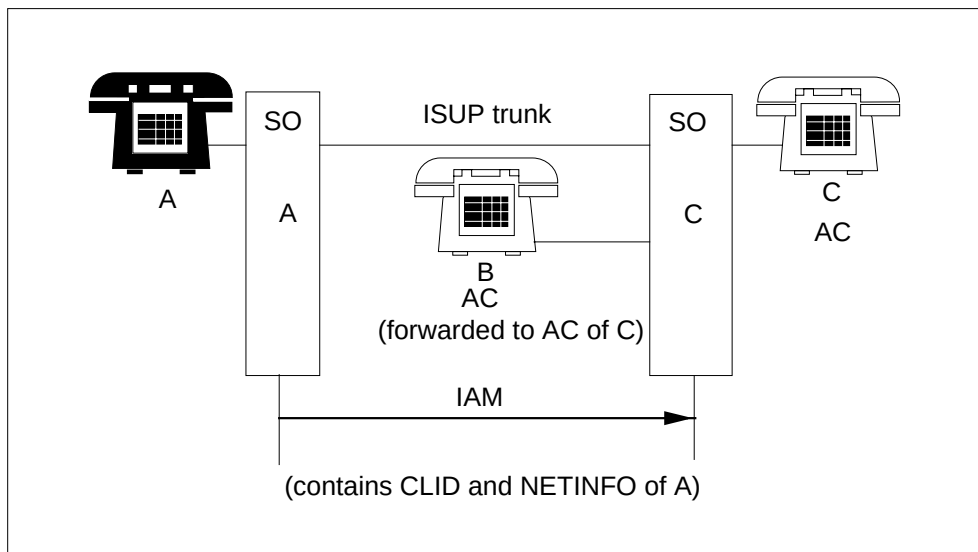
Call forwarded to AC from within same node



Interposition calling

An interposition call from one AC to another AC in the same node displays a CLLI. This call displays the CLLI of the calling attendant on the called console. The calling attendant can release before the called attendant answers when extending an incoming call to another AC. If this condition occurs, the NCOS and CLID Display on AC-II feature shows the CLID and NCOS of the originator.

A call from A, that AC of B forwards to AC of C can display the CLID and NETINFO of A. This process appears in the following figure.

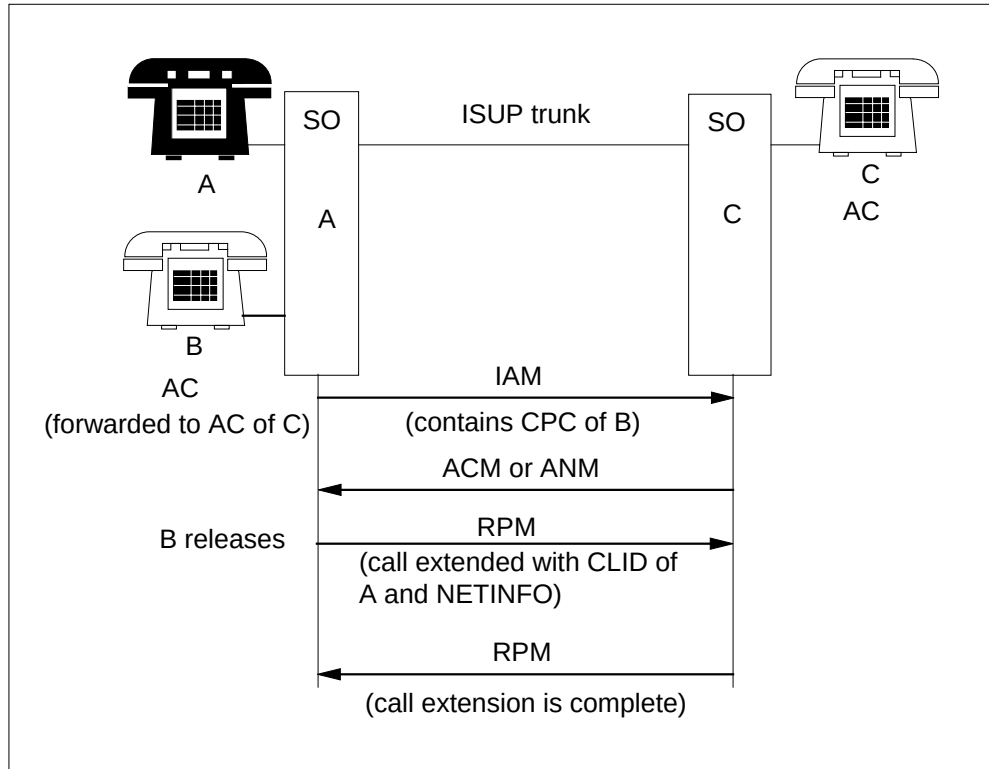
Calling Number and NCOS Display on Attendant Console (continued)**Interposition AC call within same node**

The system can extend a call over an ISUP trunk to another attendant. When this condition occurs, the first attendant can release before the second attendant answers. If this event occurs, the NCOS and CLID Display on AC-II feature provides the CLID and NCOS of A. This process appears in the following figure. The IAM carries the AC calling party category (CPC) of B to the destination switch. The reconfiguration progress message (RPM) informs attendant C that the call is an extended call. The RPM also advises when attendant B releases.

The first RPM informing of the extended call carries the CLID of A and NETINFO information to the AC of C. The reverse direction address complete message (ACM) indicates to the originating switch that reception of required address signals occurred. This message also indicates that the system can route the call forward. The answer message (ANM) indicates that the recipient answered the call and the terminating office connected the voice path.

Calling Number and NCOS Display on Attendant Console (continued)

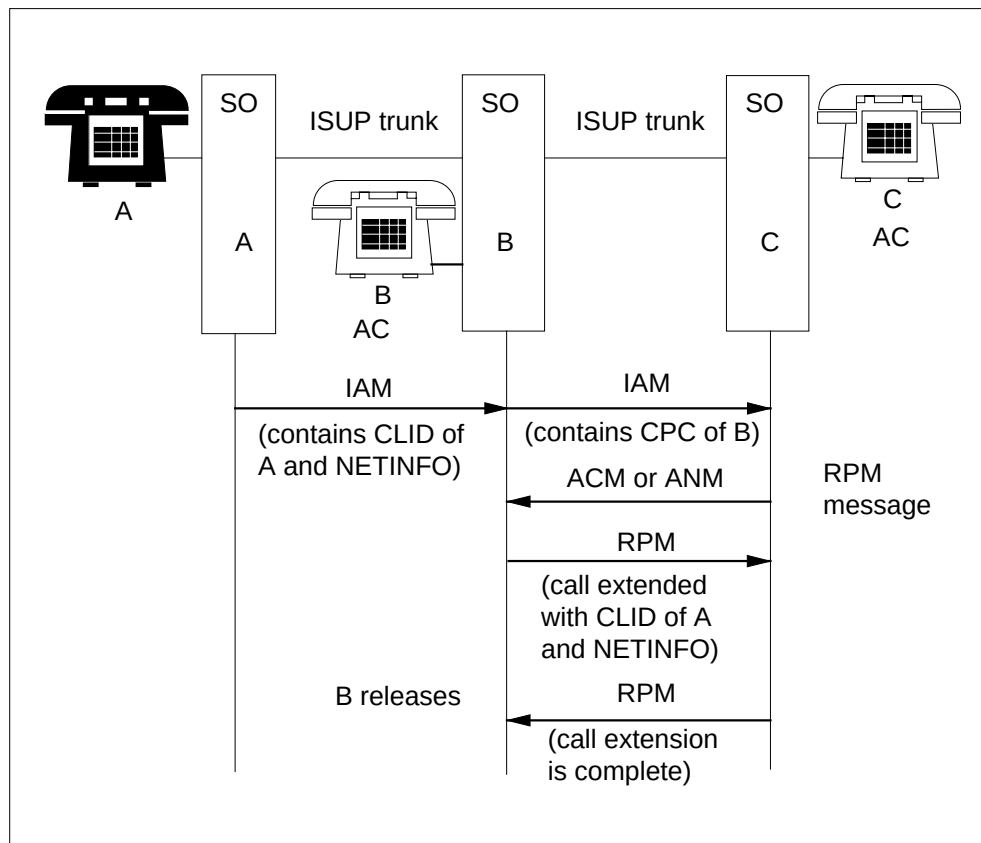
Interposition call over ISUP trunk



An interposition call through a tandem node with the method the previous paragraphs describe appears in the following figure.

Calling Number and NCOS Display on Attendant Console (continued)

Interposition call from tandem node

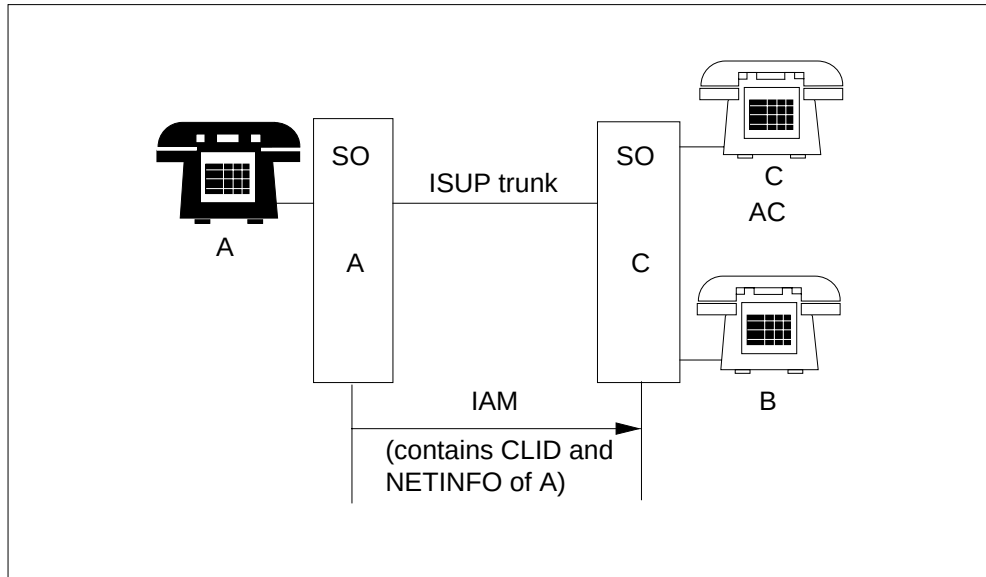


Attendant call park retrieve

An attendant can retrieve a parked ISUP trunk call. When this condition occurs, the feature provides a display of the originator CLID and NCOS through the IAM. The AC of C can display the information of A when an attendant retrieves a call parked against B. This process appears in the following figure.

Calling Number and NCOS Display on Attendant Console (continued)

Call park with originator over ISUP trunk



Attendant camp-on recall

An attendant can camp an incoming call on a busy destination line. This action causes the call to ring immediately when the line is not busy. A camped-on call the system recalls to the AC displays the originator CLID.

Display of ISUP trunk CLLI and long ISUP CLIDs

The system displays SDCOS and NCOS information from ISUP trunks. The format of the display can be like the format of calls in the same node. This display requires longer strings of numbers. The display has a limit of 16 characters. The NCOS and CLID Display on AC-II feature provides a third line. This line displays the trunk CLLI when the first line does not provide enough space. The attendant uses the Display Control (DSPC) key to scroll through the three lines of information. This process appears in the following figure.

Calling Number and NCOS Display on Attendant Console (continued)

NCOS and CLID AC display of ISUP trunk call

Line A (2145551111) dials over an ISUP trunk to an AC in the same area:

ICINAME NCOS AVP

Attendant presses DSPC key:

TRUNK_CLLI MORE:

Attendant presses DSPC key:

5551111

Attendant presses DSPC key:

ICINAME NCOS AVP

Subsequent use of the DSPC key cycles through the three lines of information

The display of redirected ISUP trunk calls can create a requirement to display two ten-digit numbers. When additional space is necessary, the originating number appears on the second line. The redirecting number, and not the trunk CLLI, appears on the third line. This number appears in the same relative positions the numbers occupied in the second line of a nodal call display. When the attendant presses the DSPC key for a call, the system displays three lines. This call is a call the system forwards over an ISUP trunk to an AC in a different service area. These lines appear in the following figure.

Calling Number and NCOS Display on Attendant Console (continued)

NCOS and CLID AC display of redirected call

Line A (2145551111) calls Line B (2145552222). System forwards the call over an ISUP trunk to an AC in a different service numbering plan area:

ICINAME NCOS AVP

Attendant presses DSPC key:

2145552222 MORE :

Attendant presses DSPC key:

2145551111

Attendant presses DSPC key:

ICINAME NCOS AVP

Subsequent use of the DSPC key cycles through the three lines of information.

Nodal calls can terminate on the no answer recall ICI key of the AC and the intercept ICI key. These nodal calls normally appear on the left side of the second line of the display. Camp-on recall and call wait recall display appear in the same location. This information indicates the number that the attendant attempts to camp on or call wait. The second number appears if the call terminates on the correct ICI key. The number appears to let the attendant know the reason for the call. If the two numbers that normally appear on the second line do not have enough space, the following display format occurs. The left-hand number is on the second line and the right-hand number on the third line. The attendant presses the DSPC key to scroll through the three lines.

Operation for AD1525

The Network CLID and NCOS Display Interaction with 3WC feature displays CLID and NCOS on the AC. This feature displays this information on the AC when connected to a three-way call conference that involves an ISUP trunk.

Calling Number and NCOS Display on Attendant Console (continued)

For this display, one of the participants must transfer to an attendant. The feature makes sure that specified updates function like the display of calls in the same node. These updates are updates of call transfers that follow in 3WC and call transfer over ISUP trunks. The only exception is that the 3 WAY CALL message only appears on the console in the following condition. This condition occurs when the third party joins in the conference with the attendant. The feature also displays to the attendant if the call involves a remote attendant.

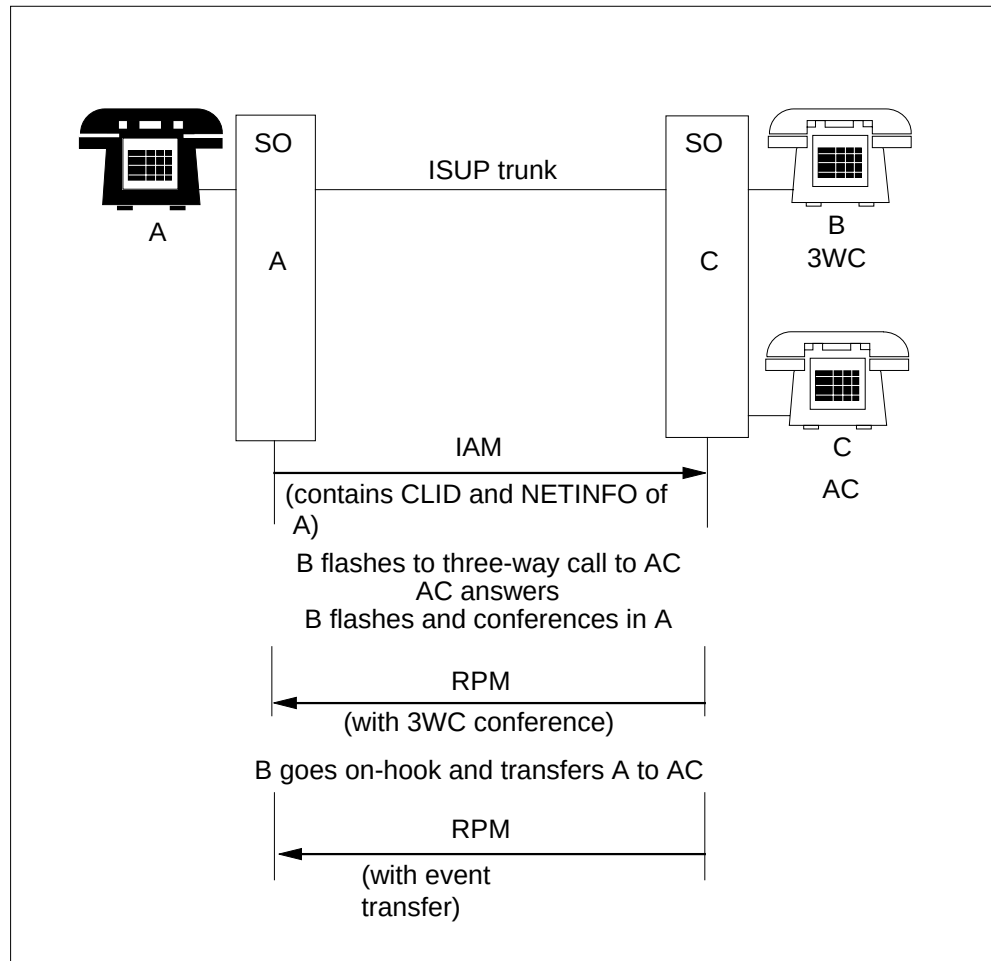
Intranode three-way call with originating ISUP trunk

An intranode three-way call can occur with the following condition. This call can have the first leg over an ISUP trunk, and the controller in the same node as the AC. This call appears in the following figure. The console displays 3 WAY CALL at termination because the controller (B) is in the same node. If the controller goes on-hook, the system transfers A to the attendant. When this condition occurs, the feature makes sure that the system updates the display with the specified information. This information includes the CLID and NCOS and SDCOS of A.

The RPM informs the originating party of the three-way call conference and the transfer. This feature does not require the system to send the ISUP messaging and display update to inform A of the transfer event. The ISUP messaging and display update appear only to provide a complete update. If A goes on-hook, the AC display update does not require the feature. The update does not require the feature because B is in the same node as the AC. A description of the updating of the display with the CLID and NCOS and SDCOS of B appeared in the previous feature.

Calling Number and NCOS Display on Attendant Console (continued)

Intranode three-way call with originating ISUP trunk



Remote node three-way call over ISUP trunk

A remote node three-way call over an ISUP trunk appears in the following figure. In this call, the remote node and AC do not first record that the originator is in a three-way call. The IAM does not carry that information. The system processes the call as a normal ISUP trunk incoming call with specified information that appears on the console. This information includes the CLID and NCOS and SDCOS of the 3WC controller. When the controller conferences in the third party, an RPM informs the AC of the three-way call. The system stores the information, and associates the information with the ISUP trunk. When the system receives the RPM, the console extracts the stored information and displays 3 WAY CALL. The RPM process differs from the nodal case. In the nodal occurrence, 3 WAY CALL appears if the third party does or does not join in the conference.

Calling Number and NCOS Display on Attendant Console (continued)

If B transfers A to the AC, an RPM informs the AC of the call transfer. The message also displays the CLID and NCOS and SDCOS of A on the console.

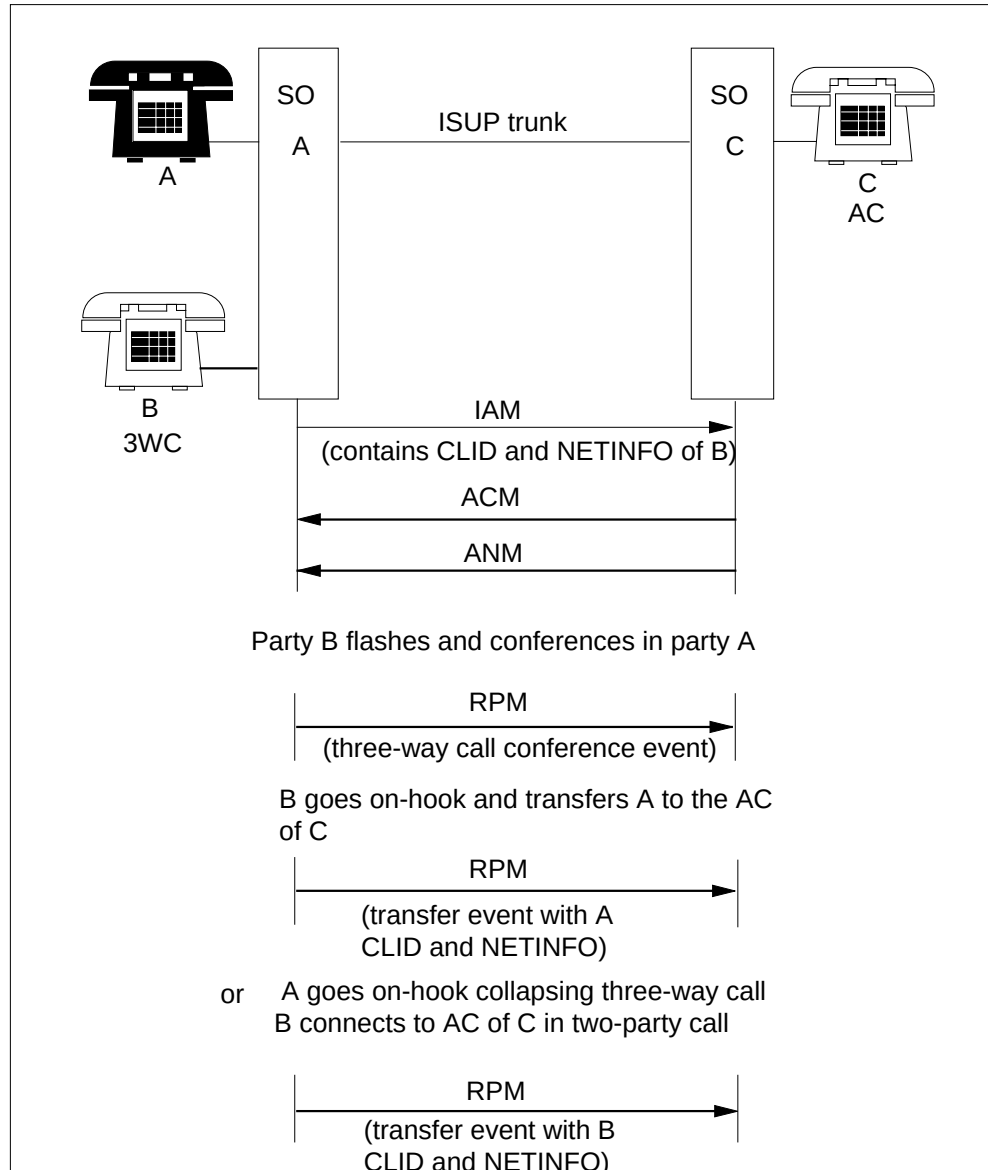
If B conferences A before the console answers, the following event occurs. The system sends and stores the RPM that contains the 3WC conference information with the ISUP trunk information. When termination occurs, the system extracts the information and 3 WAY CALL appears without a CLID, like the nodal case.

If B transfers A to the AC before the console answers, the following events occur. The RPM process occurs, and the call transfer information overwrites the 3WC event. The console displays the CLID and NCOS and SDCOS of A in the way as the display for a direct call.

If A goes on-hook, the three-way call collapses. When this condition occurs, the RPM sequence occurs and the AC displays the line identification and class of service of B.

Calling Number and NCOS Display on Attendant Console (continued)

Three-way call from remote node over ISUP trunk



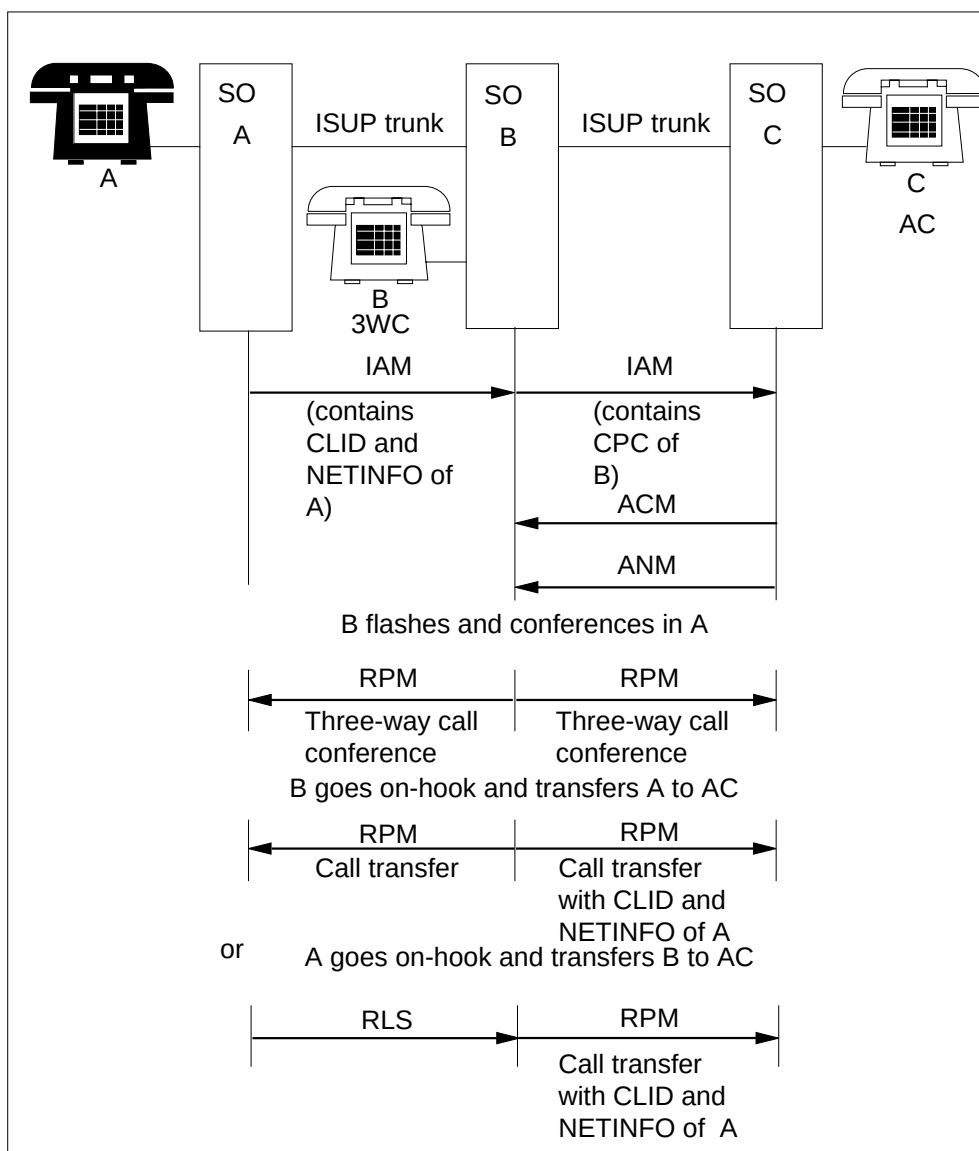
Tandem node three-way call over ISUP trunk

A three-way call that originates at a tandem node appears in the following figure. The messaging sequences in the previous two examples occur with the ISUP messages passing in both directions. These messages inform all parties of the three-way call and transfer. The only differences involve two additional messages. If the CLID and NETINFO of the transferred party are not available, the following event occurs. The system sends the information request (INR) message to the node of the party that transferred. The 3WC

Calling Number and NCOS Display on Attendant Console (continued)

chaining can cause this information to be not available. The information (INF) message returned from the tandem node updates the AC display.

Three-way call from tandem node over ISUP trunk



Conference calls and held loop reaccess

The Network CLID and NCOS Display Interaction with 3WC feature can display the message 3 WAY CALL. This condition occurs when access of a three-way call conference from a held loop occurs again. The feature displays

Calling Number and NCOS Display on Attendant Console (continued)

CONFERENCE when access of a held loop conference call on an ISUP trunk occurs again.

Note: The messaging that feature AG1255 provides for conference calls is like the 3WC conference description with the following exception. The event indicator is CONFERENCE instead of 3 WAY CALL as the previous paragraph describes.

Network calls involving remote attendants

The Network CLID and NCOS Display Interaction with 3WC feature provides an improved display. This display is for an originated or extended ISUP trunk call from one AC to another AC. Only the CLLI of the ISUP trunk in use appears in earlier versions of the display. The feature displays the message REMOTE AC CNCTD instead of a CLID for a normal line call. This call is a normal line call over an ISUP trunk to an AC.

Translations table flow

The Calling Number and NCOS Display on Attendant Console translations tables appear in the following list:

- Table CUSTENG
- Table NETNAMES
- Table CUSTNTWK

Limits

Calling Number and NCOS Display on Attendant Console can provide the NCOS or SDCOS and calling number identification of the originator when:

- the information must be present in the IAM
- end-to-end ISUP signaling must be present

The IAM that contains the origination information does not reach the terminating switch if:

- ISUP signaling is not present
- the system encounters internetworking

The following limits apply to Calling Number and NCOS Display on Attendant Console:

- AG1123 ISUP Long Messaging
- AC0671 IBN ISUP

Calling Number and NCOS Display on Attendant Console (continued)

To function correctly, Network CLID and NCOS Display Interaction with 3WC (AD1525) requires Network Display Enhancement feature (AG1255).

Interactions

Calling Number and NCOS Display on Attendant Console does not have actions between functions.

Activation/deactivation by the end user

Calling Number and NCOS Display on Attendant Console and the Network CLID and NCOS Display Interaction with 3WC feature are passive. These features do not require activation by the end user. The NCOS and CLID Display on AC-II feature provides the attendant with additional lines of display. This provision occurs through use of the DSP and DSPC keys.

Display (DSP) key

The AC displays the CLID and NCOS of the originator when an attendant retrieves a held loop call to the console. A second line of information in the display buffer contains information on the other party in the held loop call. This information is the CLID and NCOS of the other party. The attendant can press the DSP key to toggle between information. This information is the CLID and the NCOS of the originator and the second party in a call held earlier.

Display control (DSPC) key

The display of SDCOS and NCOS information from ISUP trunks is in a format like the format of calls in the same node. This display format requires longer strings of numbers. The NCOS and CLID Display on AC-II feature provides a third line. This provision occurs because the display has a limit of 16 characters. This third line displays the trunk CLLI when the first line does not have enough space. The display of redirected ISUP trunk calls can create a requirement to display two ten-digit numbers. When additional space is required, the originating number appears on the second line. The redirecting number, and not the trunk CLLI, appears on the third line. These numbers appear in the same relative positions the numbers occupied in the second line of a nodal call display. To cycle through three lines of information in the display buffer, the attendant presses the DSPC key.

Billing

Calling Number and NCOS Display on Attendant Console does not affect billing.

Calling Number and NCOS Display on Attendant Console (continued)

Station Message Detail Recording

Calling Number and NCOS Display on Attendant Console does not affect Station Message Detail Recording.

Datafilling office parameters

Calling Number and NCOS Display on Attendant Console does not affect office parameters.

Datafill sequence

Calling Number and NCOS Display on Attendant Console creates table CUSTNTWK (Customer Group Network).

You must enter data in table CUSTENG (Customer Group Engineering) before you enter data in table CUSTNTWK. This entry order is a requirement that provides the correct customer group name that must already be available in table CUSTENG. If you enter a customer group that is not correct, the message CUSTOMER GROUP DATA MISSING appears.

You must enter data in table NETNAMES before you enter data in CUSTNTWK. This entry order is a requirement that provides the specified network name that must already be available in Table NETNAMES. If you enter a NETNAME that is not correct, the message NETNAME DATA MISSING appears.

The tables that require datafill to implement Calling Number and NCOS Display on Attendant Console appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Calling Number and NCOS Display on Attendant Console

Table	Purpose of table
CUSTENG	Customer Group Engineering. This table lists the values for the engineering parameters and options for each customer group.
NETNAMES	Internal Logic Network Names. This table allows the operating company to define logical network names and to associate each name with a numerical network identifier.
CUSTNTWK	Customer Group Network. This table allows the customer to associate a customer group with a network name.

Datafilling table CUSTENG

The values for the engineering parameters and options for each customer group appear in Table CUSTENG (Customer Group Engineering).

Calling Number and NCOS Display on Attendant Console (continued)

Datafill for Calling Number and NCOS Display on Attendant Console for table CUSTENG appears in the following table. The fields that apply to Calling Number and NCOS Display on Attendant Console appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CUSTENG

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		alphanumeric	Customer Group Name. This field specifies the name assigned to the customer group. Enter an alphanumeric name.

Datafill example for table CUSTENG

Sample datafill for table CUSTENG appears in the following example.

MAP example for table CUSTENG

CUSTNAME	NONCOS	NOIBNTMT	CONSOLES	DOMAIN	GROUPID OPTIONS
MDCGRP1	100	40	Y	FAMILY	MDC
			(CONF6C	15)	(XMX 3) \$

Datafilling table NETNAMES

Table NETNAMES (Internal Logical Network Names) allows the operating company to define logical network names. Table NETNAMES allows the operating company to associate each name with a numerical network identifier. The size of this table increased to allow a list of network options to associate with a logical network.

Datafill for Calling Number and NCOS Display on Attendant Console for table NETNAMES appears in the following table. The fields that apply to

Calling Number and NCOS Display on Attendant Console (continued)

Calling Number and NCOS Display on Attendant Console appear. See the data schema section of this document for a description of the other fields.

Datafilling table NETNAMES

Field	Subfield or refinement	Entry	Explanation and action
NETNAME		alphanumeric	Logical Network Name. This field specifies the logical network name. Enter a 1- to 32- character network name.

Datafill example for table NETNAMES

Sample datafill for table NETNAMES appears in the following example.

MAP example for table NETNAMES

NETNAME	EXTENID	NETDIGS	NETOPTS
NTI	2	0	(NMDSP SETUP) \$

Datafilling table CUSTNTWK

Table CUSTNTWK (Customer Group Network) allows the customer to associate a customer group with a network name, NETNAME in table NETNAMES. Table CUSTNTWK allows the customer to define the predetermined numeric identification number in NETNAME for a customer group through the network.

The Network Customer Group ID (NETCGID) specified for a customer group cannot have a previous definition for the same NETNAME in the table. The entry must be a correct customer group in table CUSTENG. The network name must be a correct NETNAME in table NETNAMES.

The feature adds the option NTWKRAAG to table CUSTNTWK. This option specifies if a customer group has access to NTWKRAAG. The Network Wide Ring Again feature (AC0262) uses the option to specify if NTWKRAAG is available for a customer group in a specified NETNAME.

The feature adds the option CLID to Table CUSTNTWK. This option controls network CLID for each customer group. The Networked EBS Display feature (AC0263) uses the option to control network CLID presentation for each customer group.

Calling Number and NCOS Display on Attendant Console (continued)

Datafill for Calling Number and NCOS Display on Attendant Console for table CUSTNTWK appears in the following table. The fields that apply to Calling Number and NCOS Display on Attendant Console appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CUSTNTWK (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		alphanumeric	Customer group name. This field specifies the name assigned to the customer group. Enter the 1- to 16-character alphanumeric name. This name must already be in table CUSTHEAD (Customer Group Head).
NETNAME		alphanumeric	Network name. This field specifies the name of the NETWORK assigned to the customer group in table NETNAMES. Enter the 1- to 32-character alphanumeric name.
NETCGID		1 to 4096	Network customer group identifier. This field specifies the number of the Network Customer Group Identifier assigned to the customer group. Enter a value from 1 to 4096.
OPTIONS		NTWKRAG	Options. This field defines options. Enter NTWKRAG if the data entry for the Network Ring Again option must occur. Note: If you set OPTIONS to NTWKRAG, subfields TIMEOUT, ORIGDUR, ORIGTRY, TERMDUR, TERMGRD, and TERMQAD require datafill.
	TIMEOUT	numeric	Time-out. This subfield specifies the time that the system applies ringing. The time is in 1-s intervals. This ringing alerts a line with the Network Ring Again feature. The system alerts the line to indicate that the line that was busy is now idle. Enter a value from 10 to 60 or leave blank if time-out is not a requirement.
	ORIGDUR	5 to 30	Originator duration time-out. This subfield specifies the time that the network ring again request at the originating switch remains active. The time is in 1-m intervals. Enter a value from 5 to 30.

Calling Number and NCOS Display on Attendant Console (continued)

Datafilling table CUSTNTWK (Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	ORIGTRY	2 to 10	Originator retry time-out. This subfield specifies the time that the originator waits. The time is in 1-s intervals. The originator waits for this time period after the originator sends out a TCAP QUERY message. The originator waits for this time period before the originator sends out another message or terminates the attempt. Enter a value from 2 to 10.
	TERMDUR	5 to 31	Terminator duration time-out. This subfield specifies the time that the network ring again request remains active at the terminating switch. The time is in 1-m intervals. The time-out value is greater than the value in field ORIGDUR. Enter a value from 5 to 31.
	TERMGRD	1 to 6	Terminator Guard Time-out. This subfield specifies the time to wait before the system applies ringing to a line. The time is in 1-s intervals. The system applies ringing to a line to indicate that the line that was busy is idle. Enter a value from 1 to 6.
	TERMQAD	5 to 40	Terminator Queue Advance Time-out. This subfield specifies the time that the switch of the terminator waits. The time is in 1-s intervals. The switch waits for this time period before the switch sends messages to different originators that the line is free. Enter a value from 5 to 40.
	OPTIONS	CLID	Options. This field defines options. Enter CLID if the data entry for the Calling Line Identification option must occur. Note: If you set OPTIONS to CLID, subfield CLIDOPT requires datafill.
	CLIDOPT	ONNET or OFFNET	CLID option. This subfield defines the CLID option. Enter ONNET to enable the CLID option only on specified calls. These calls are calls originating from the same network as the network associated with the called party. Enter OFFNET to enable the CLID option on all networked calls of any origin.

Calling Number and NCOS Display on Attendant Console (end)

Datafilling table CUSTNTWK (Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		NASOPT	Options. This field defines options. Enter NASOPT if data entry for the Network Attendant Services options must occur. Note: If you set OPTIONS to NASOPT, subfield NASOPT requires datafill.
	NASOPT	NACO or NACR	Network Attendant Services Options. Enter NACO if the system allows Network Camp-On and Network Camp-On Recall. Enter NACR if the system allows Network Attendant Control and Network Flash Recall. Enter NBVL if the system allows Network Busy Verify Line. Enter NDSP if the system allows Network Calling Line Identification (CLID) and NCOS Display.

Datafill example for table CUSTNTWK

Sample datafill for table CUSTNTWK appears in the following example.

MAP example for table CUSTNTWK

CUSTNTWK			
CUSTNAME	NETNAME	NETCGID OPTIONS	DNREVXLA
MDCGRP1	NTI	1	\$
(NTWRKRAG 30 5 3 12 3 5 OFFNET) (CLID OFFNET) \$			

Tools for verifying translations

Calling Number and NCOS Display on Attendant Console does not use tools for verifying translations.

SERVORD

Calling Number and NCOS Display on Attendant Console does not use SERVORD.

MBG/IBN ISUP Redirection Enhancements

Ordering codes

Functional group ordering code: MDC00006

Functionality ordering code: does not apply

Release applicability

NA008 and later versions

Multilocation Business Group (MBG)/Integrated Business Network (IBN) Integrated Services Digital Network (ISDN) User Part (ISUP) Redirection Enhancements was introduced in NA007.

Requirements

To operate, MBG/IBN ISUP Redirection Enhancements has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- Base ISUP, ISP70001
- MDC Standard, MDC00003

Description

The MBG/IBN ISUP Redirection Enhancements feature delivers the private network name and number of the redirection (call forwarding) party. This feature delivers the network name and number to the terminating party in place of the public network name and number. This functionality also makes the business group (BG) parameter in the initial address message (IAM) Bellcore-compliant for MBG calls over ISUP trunks.

Operation

Descriptions of the enhancements that this feature creates appear in the following sections.

Private name and number display enhancements

Before this feature, the public name and number of the redirecting party was in the IAM. The public name and number were in the IAM if the second call leg encountered the private network that forwarded the call. This feature delivers the private name and number of a redirecting Meridian Digital Centrex (MDC) subscriber. This feature delivers this information when the extragroup caller routes through MBG translations over ISUP trunks. If the caller is intragroup and routes over IBN ISUP trunks, this feature also delivers

MBG/IBN ISUP Redirection Enhancements (continued)

the private name and number. With this feature, internal (private) names and numbers can appear in a networked environment. The system can activate this feature for each customer network.

The DMS-100 switch uses public and private call types. With redirection, the first leg can be public and the second leg private. Public calls come from outside the customer group. Private calls are intragroup calls. Before this feature, the system used public name. The DMS switch used the public name if a leg encountered the public network. This feature allows for the appearance of the private name of the redirecting party. The private name appears because the second leg remains in a private network.

One of the options this feature creates governs the delivery of the private name and number display of a redirecting MDC subscriber. This option governs the delivery through MBG translations (extragroup) or over IBN ISUP trunks (intragroup). This option is CFWPVT in table CUSTNTWK. If the network of the redirecting party has option CFWPVT assigned, the IAM includes the private name and number. The IAM includes the private name and number if the calling party is not in the same customer network as the redirecting party. This functionality is compatible with a private network. You cannot add option CFWPVT if you enter PUBLIC in field NETNAME. If you attempt this addition, the system returns an error message.

Business group parameter enhancements

This feature creates the following enhancements to make the BG parameter of the IAM Bellcore-compliant:

- multiparty information in the BG parameter for MBG redirected calls
- an optional way to change the line privilege information indicator (LPII) field of the BG parameter (option FIXPRIV)
- a warning message for the assignment of option CUSTGRP to a BGID of LOCAL 1 in table BGDATA
- the equivalent functionality of patch GWR79

Multiparty information in the BG parameter

The BG parameter contains information about each party with this feature. This information includes the calling party number (CPN), the original called party number (OCN), and the redirecting party number (RPN). The BG parameter includes this information for each party number in the IAM. Before this feature, the BG parameter had the party selector set to calling party number. The rest of the BG information contained data from the RPN.

This feature fulfills the following Bellcore requirements. For a non-redirected call, the IAM must include the calling party information. For a call redirected

MBG/IBN ISUP Redirection Enhancements (continued)

a single time, the IAM must include the calling party and the original called party information. For a call that the system redirects more than one time, the IAM must include specified information. The IAM must include the calling party, the original called party, and the redirecting party information.

Option FIXPRIV in table BGDATA

This feature creates option FIXPRIV in table BGDATA. This option sets the LPPI field to Fixed Line Privileges, for the BG to which this option is assigned. This option sets the Line Privileges field to 00 for the party information in the BG parameter. This option does not include the network class of service (NCOS) value. The system uses the NCOS in the Line Privileges field for display and routing purposes. This feature does not remove current functionality for networks that do not require a Bellcore compliant network.

Before this feature, field LPPI was set to customer-defined privileges. The Line Privileges field delivered the NCOS.

LOCAL 1 warning message in table BGDATA

The Bellcore requirement specifies that a business group identifier (BGID) of 001 is reserved for a public network identifier. This BGID is the equivalent of the entry of LOCAL 1 as a BGID in table BGDATA. Party comparisons can occur and you enter a BGID of LOCAL 1 with option CUSTGRP. When this condition occurs, the system records public parties as members of the BGID LOCAL 1. When you make this entry, you assign a customer group identifier and not the stipulated public network identifier. In this occurrence, the public party has the same BGID as the customer group party.

When you add, change, or replace the CUSTGRP option to a BGID of LOCAL 1 in table BGDATA, a warning messages appears. This message states that LOCAL 1 is reserved for a public network identifier. The feature allows the assignment of the CUSTGRP option to LOCAL 1.

Patch GWR79 functionality

Patch GWR79, from BCS34, determined the delivery of the calling DN to a Station Message Desk Interface (SMDI). Patch GWR79 determined the delivery when the system forwards a call to an SMDI through an ISUP trunk. The system translated this trunk as MBG. The GWR79 assigned a spare bit in the BG parameter, at the originating office, if calling and forwarding parties were intragroup (private). The GWR79 assigns the spare bit because the redirecting party information is in the BG parameter. This feature removes the requirement for this spare bit.

This feature incorporates the functionality of GWR79 in option SMDICND. This feature removes the reference to the spare bit in the BG parameter. This

MBG/IBN ISUP Redirection Enhancements (continued)

feature includes multiparty information and performs the customer group comparison. The feature performs this comparison when calling and forwarding parties reside in one office and SMDI resides in a different office.

Translations table flow

The MBG/IBN ISUP Redirection Enhancements feature does not affect translations table flow.

Limits

The following limits apply to the MBG/IBN ISUP Redirection Enhancements feature:

- This feature allows the system to send the private name and number during a network hop-off. For example, a call can arrive on an IBN trunk with a private name. The system routes the call to a phone outside the private network. When this action occurs, the private name and number of the redirecting agent appears instead of the public name and number. The private network is in the public network and does not normally allow the appearance of a private name and number.
- The following limit applies if a BGID of LOCAL 1 in table BGDATA is assigned option CUSTGRP. The following limit applies if the system uses the customer group comparison function of option SMDICND. This function compares the agents of a call to an SMDI. The calling party can be public and the redirecting party can have a BGID of LOCAL 1. In this occurrence, the public party can have the same BGID as the customer group party. The system records the public party as a member of the BGID LOCAL 1. This condition can cause the delivery of the DN of the public party, and not the redirecting party, to the SMDI.

Interactions

Descriptions of the interactions between the MBG/IBN ISUP Redirection Enhancements feature and other functionalities appear in the following paragraphs.

Attendant console (AC)

An attendant console can make a direct call that routes over MBG translations. In this occurrence, the calling party information in the BG parameter contains the BGID associated with the AC customer group. The Attendant Status field is set to Attendant Line. An AC can make a call to a line that the system forwards over MBG translations. In this occurrence, the calling party information contains a BGID of LOCAL 1. The system sets the Attendant Status field to Attendant Line.

MBG/IBN ISUP Redirection Enhancements (continued)

Key Short Hunt

The number of parties in the BG parameter is like the parties in the IAM.

Line Overflow to DN, Line Overflow to Route

The number of parties in the BG parameter is like the parties in the IAM.

Remote Call Forwarding (RCF)

Remote Call Forwarding does not send an OCN or an RDN in the IAM if the system redirects the call over ISUP. The redirection indicator in the IAM includes RCF in the redirection counter. The BG parameter must remain consistent with the Redirection Counter. The BG must allow business group comparisons that involve the RCF leg of the call. For these conditions, the BG parameter includes the RCF redirection information. The BGID associated with the RCF is always set to LOCAL 1.

Series Completion

The number of parties included in the BG parameter is like the parties included in the IAM.

Special Delivery Service

The method Special Delivery Service uses to invoke redirection does not allow this feature to determine the redirecting party. The BG parameter does not include the redirecting party information. The BG parameter includes the calling party information.

Universal Voice Messaging

The method Universal Voice Messaging uses to invoke redirection does not allow this feature to determine the redirecting party. The BG parameter does not include redirecting party information. The BG parameter does include the calling party information.

Activation/deactivation by the end user

The MBG/IBN ISUP Redirection Enhancements feature does not require activation or deactivation by the end user.

Billing

The MBG/IBN ISUP Redirection Enhancements feature does not affect billing.

Station Message Detail Recording

The MBG/IBN ISUP Redirection Enhancements feature does not affect Station Message Detail Recording.

MBG/IBN ISUP Redirection Enhancements (end)

Datafilling office parameters

The MBG/IBN ISUP Redirection Enhancements feature does not affect office parameters.

Datafill sequence

The MBG/IBN ISUP Redirection Enhancements feature does not affect datafill sequence.

Tools for verifying translations

The MBG/IBN ISUP Redirection Enhancements feature does not use tools for verifying translations.

SERVORD

The MBG/IBN ISUP Redirection Enhancements feature does not use SERVORD.

NAS Features Optionality

Ordering codes

Functional group ordering code: MDC00006

Functionality ordering code: does not apply

Release applicability

NA008 and later versions

Requirements

To operate, NAS Features Optionality has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MBS Minimum, MDC00007
- Base ISUP, ISP70001
- MDC Standard, MDC00003
- TEL CCS7 Base, TEL00008

Description

The NAS Features Optionality allows the operating company to control customer groups. The feature allows the operating company to determine which customer groups in a DMS-100 switch can access the Network Attendant Services (NAS) feature. This feature allows the operating company to determine which customer groups in an SL-100 Common Channel Signaling No. 7 (CCS7) network have access to NAS features. The NAS features follow:

- Network Attendant Control, with Network No-answer Time-out Recall and Network Flash Recall
- Network Busy Verification Lines
- Network Camp-on, including Network Camp-On Recall
- Network Calling Line Identification (CLID) and Network Class of Service (NCOS) Display

Operation

The NAS Features Optionality contains a new value, NASOPT, for field OPTIONS in table CUSTNTWK. The NAS Feature Optionality adds

NAS Features Optionality (continued)

NASOPT as a field in table CUSTNTWK. The following options are available:

- The NACR assigns Network Attendant Control to the customer group.
- The NACO assigns Network Camp-On or Network Camp-On Recall to the customer group. If you enter this value in field NASOPT, enter data in the following fields:
 - TIMER specifies the amount of time, in seconds, that Network Camp-on Recall will wait before ringing back during camp-on. The range is 12 through 60 s. The default value is 20 s.
 - MUSIC specifies if you hear music during camp-on. A Y specifies music. An N specifies silence.
- The NBVL assigns Network Busy Verification to the customer group.
- The NDSP assigns Network CLID and NCOS Display to the customer group.

Translations table flow

The NAS Features Optionality does not affect translations table flow.

Limits

All current NAS feature limits apply to this feature.

Interactions

The NAS Features Optionality does not have functionality interactions.

Activation/deactivation by the end user

The NAS Features Optionality does not require activation or deactivation by the end user.

Billing

The NAS Features Optionality does not affect billing.

Station Message Detail Recording

The NAS Features Optionality does not affect Station Message Detail Recording.

Datafilling office parameters

The NAS Features Optionality does not affect office parameters.

NAS Features Optionality (continued)

Datafill sequence

The following table lists the tables that require datafill to provide the NAS Features Optionality. The tables appear in the correct entry order.

Datafill requirements for NAS Features Optionality

Table	Purpose of table
CUSTNTWK	Customer Group Network. This table contains network options assigned to customer group networks

Datafilling table CUSTNTWK

Table CUSTNTWK (Customer Group Network) contains network options assigned to customer group networks. Enter data in this table to make NAS options available to a specified customer group network.

Datafill for NAS Features Optionality for table CUSTNTWK appears in the following table. The fields that apply to NAS Features Optionality appear in

NAS Features Optionality (continued)

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

Datafilling table CUSTNTWK

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		NASOPT	Options. This field specifies the network attendant service option. Enter NASOPT, and enter data in subfield NASOPT.
	NASOPT	NACO , NACR, NBVL, NDSP, or NRLT	Network Attendant Services options. This subfield specifies the NAS options. Enter NACO if the Network Camp-On and Network Camp-On Recall features can be present. Enter data in refinements TIMER and MUSIC. Enter NACR if Network Attendant Control and Network Flash Recall features can be present. Enter NBVL if the system allows the Network Busy Verify Line. Enter NDSP if the Network CLID and NCOS Display features can be present. Enter NRLT if the NAS Release Link Trunk option is available for a network customer group.
	NACO_TIMER	0 or 12 to 60	Timer. This subfield specifies the timer in seconds. Enter 0 for Network Camp-On. Enter a value from 12 to 60 for Network Camp-On Recall. The default value is 20.
	NACO_MUSIC	Y or N	Music. This subfield specifies if a request for music occurred from the terminating DMS switch node. Enter Y or N.

Datafill example for table CUSTNTWK

Sample datafill for table CUSTNTWK appears in this example. A tuple in table CUSTNTWK with all NAS features assigned to the BNRESN network of customer group BNRCAR appears in this example.

NAS Features Optionality (end)

MAP example for table CUSTNTWK

CUSTNAME	NETNAME	NETCGID	DNREVLXLA OPTIONS
IBNDEMO	PUBLIC	2	\$
	(NASOPT (NACR)	(NACO 30 Y)	(NBVL) (NDSP) \$)\$

Tools for verifying translations

The NAS Features Optionality does not use tools for verifying translations.

SERVORD

The NAS Features Optionality does not use SERVORD.

Network Attendant Control

Ordering codes

Functional group ordering code: MDC00006

Functionality ordering code: does not apply

Release applicability

NA008 and later versions

Requirements

To operate, Network Attendant Control has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC Standard, MDC00003
- MDC MBS Minimum, MDC00007
- Base ISUP, ISP70001

Description

The Network Attendant Console increases the capability of the Attendant Control feature. The Attendant Console feature allows one of the two parties to go on-hook without disconnection. Disconnection does not occur if the calling party and the called party are in the same switch (a nodal call).

The Network Attendant Control can extend control over calls for the attendant and callers that connect to different switches. Network Attendant Control can control these calls when the calls are in the same customer group (network calls). For example, a party can go on-hook without disconnecting the call when the attendant completes a connection. The Network Attendant Control can control calls over plain old telephone service (POTS) integrated services digital network user part (ISUP), or IBN ISUP trunks. The attendant console (AC) or the other party can initiate the call. The party can talk with the attendant at the console, on hold, or in recall queue.

If a party goes on- or off-hook when under network attendant control, a message appears on the console display of the attendant. The system can signal one or both parties when the connection completes.

Operation

Operation for Network Attendant Control is the same as operation for Attendant Control.

Network Attendant Control (continued)

The attendant presses the Signal Source (SIG SRC) or Signal Destination (SIG DEST) key at the console to ring a party under network attendant control. This action causes the system to send a FAR message to the specified exchange with a request to call the party. The AC presses the Release Source (RLS SRC) or the Release Destination (RLS DEST) key on the console to release the source or the destination.

Operation examples

Use the following control operations with Network Attendant Control.

Case 1: Party A or the attendant originates a call

- A calling party, party A, calls the AC, or the attendant originates a call to party A. Assume the attendant talks to party A.
- Party A goes on-hook.
- The attendant sees SRC ON-HOOK on the display of the console. Party A cannot disconnect the call.
- The attendant can perform any of the following:
 - Extend the call to another party (called the destination).
 - Press the RLS SRC key to release the source. In this event, the AC remains in the loop.
 - Press the Release (RLS) key and end the call.
 - Press the SIG SRC key to ring party A.
- Party A goes off-hook after being on-hook.
- In this event, the attendant does not disconnect the call because of the Network Attendant Control feature. The message SRC OFF-HOOK appears on the console display of the attendant. Party A can talk to the attendant again.

Case 2: The attendant extends the call to another party (party B)

Party A talks to the attendant. The attendant extends the call to party B. Party B answers the call.

- Party A goes on-hook.
- Party A does not disconnect the call. The message SRC ON-HOOK appears on the console of the attendant.

Network Attendant Control (continued)

- The attendant can perform any of the following:
 - Press the RLS SRC key to release party A. The attendant can talk to party B.
 - Press the RLS key to end the call.
 - Press the SIGSRC key to call party A.
- Party A goes off-hook.
- The message SRC ON-HOOK appears on the console display of the attendant. If the attendant does not disconnect the call, party A can talk to the attendant again.
- Party B goes on-hook.
- The message DST ON-HOOK appears on the console display of the attendant. Party B cannot disconnect the call.
- The attendant can perform any of the following:
 - Press the SIG DEST key to call party B.
 - Press the RLS DEST key to release party B. The attendant can talk to party A only.
 - Press the RLS key to end the call completely.
- Party B goes off-hook.
- The message DST OFF-HOOK appears on the console display attendant. The attendant cannot disconnect the call. The Network Attendant Control allows party B to talk to the attendant again.

Translations table flow

The Network Attendant Control does not affect translations table flow.

Limits

The limits for the Attendant Control feature and the Network Attendant Control feature are the same. See Limits for the Attendant Control feature.

Interactions

The nodal Attendant Control and the Network Attendant Control have the same feature interactions. This feature does not affect the functions of any other features in the DMS switch.

Activation/deactivation by the end user

The Network Attendant Control does not affect activation/deactivation by end user.

Network Attendant Control (end)

Billing

The Network Attendant Control does not affect billing.

Station Message Detail Recording

The Network Attendant Control does not affect Station Message Detail Recording.

Datafilling office parameters

The Network Attendant Control does not affect office parameters.

Datafill sequence

The Network Attendant Control does not affect datafill.

Tools for verifying translations

The Network Attendant Control does not use tools for verifying translations.

SERVORD

The Network Attendant Control does not use SERVORD.

Network Attendant Recall

Ordering codes

Functional group ordering code: MDC00006

Functionality ordering code: does not apply

Release applicability

NA008 and later versions

Requirements

To operate, Network Attendant Recall requires the following functional groups:

To operate, Network Attendant Recall has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC MBS Minimum, MDC00007
- Base ISUP, ISP70001
- MDC Standard, MDC00003

Description

Features in the Network Attendant Service feature package improve current attendant services. This package allows the attendant to extend control over calls where the attendant and other callers connect to different switches. These attendant and other callers belong to the same customer group.

The Network Attendant Recall feature adds two functions to the Network Attendant Service feature package. One function of Network Attendant Recall allows the attendant to extend the recall capabilities across the network. The attendant can extend the recall capabilities through a Common Channel Signaling No. 7 (CCS7) trunk in the following conditions:

- When a console extends a call to an idle line in the same customer group, and that line does not answer (No Answer Recall).
- When a console extends a call to a busy line in the same customer group, and Call Waiting or Attendant Camp-On appears. If the busy line does not answer the attendant-extended call, the system starts Attendant Camp-On or Call Wait Recall.
- When a console extends a call to a line that does not answer and the source wants to recall the console (Source Flash Recall).

Network Attendant Recall (continued)

Another function of Network Attendant Recall allows the no answer recall timer to activate. The timer activates when the attendant extends a call to a three-way call.

Operation

The Network Attendant Recall contains two parts. This feature description refers to the two separate parts of the feature. One part is the Network Attendant Recall part. The other part is Three-Way Call Recall.

Network Attendant Recall part

This part of the feature uses two timers. Fields CWNATIM and ACORECTO in table CUSTCONS (Customer Group Attendant Console Option) set the timers. The CWNATIM field defines the table for the following features:

- Attendant No Answer Recall
- Call Waiting Recall
- Camp-On Recall
- Attendant Console Flash Recall

Attendant Console Flash Recall applies when the timer value does not equal zero in field CWNATIM. When a source or originating party requests flash recall and sends an FAR message to the attendant console (AC), the timer begins. A FAR message is an integrated services digital network user part [ISUP] facility request message. If the source does not receive an FAA or FRJ message from the AC before the timer expires, the source sends a message. The source sends a second FAR message with flash recall request to the AC. If the AC does not receive the second FAR message, the AC ignores the initial flash recall request.

The system defines the field ACORECTO for Attendant Camp-On Recall. The timers defined in fields CWNATIM and ACORECTO start when the timers receive an ACM message (ISUP address complete message) from the remote switch. Timers cancel when the timers receive an ANM message (ISUP answer message) from the remote switch.

Three-Way Call Recall part

This part of the feature allows the recall function on any three-way call to an attendant console. This feature allows recalls if the source is on three-way call.

For example, Three-Way Call Recall allows the no answer recall timer. If the system extends a three-way call to the attendant to a party, the attendant holds or release the call. If the calling party does not answer, the call queues back to the attendant after the no answer recall timer expires.

Network Attendant Recall (continued)

In the nodal condition, the source flashes to recall if the three-way call disappears from the call. The call disappears source becomes a normal party before the AC releases or holds the call. The system considers a flash from the source as a three-way call. The system considers a flash as a three-way call action if the source party is in a three-way call. The system considers a flash that occurs in the specified period for flash recall as a flash recall. The system considers the flash as a flash recall if the source or the destination is a single party. The flash must not be part of the following: a conference feature, call waiting, call request, or flash-activated feature.

Translations table flow

The Network Attendant Recall does not affect translations table flow.

Limits

The following limits apply to both parts of Network Attendant Recall:

- This feature functions correctly on an ISUP.
- This feature functions correctly on IBN and plain old telephone service (POTS) trunks.
- The limits on Attendant Console Recall apply to this feature.
- This feature does not include Network Attendant Call-Park Recall.
- The limits on Attendant Console Recall apply to this feature when Call Forward Don't Answer is active at the called party.
- This feature does not support recall interactions with the Interposition Calling feature.

Interactions

The following paragraphs describe the interactions between Network Attendant Recall and other functionalities.

Attendant Console Recall

The functions of Attendant Console Recall do not change except the functions that interact with Three-way Calling.

Flash Recall with SRC and Destination Party

This feature allows Flash Recall to the AC for the source and destination.

ISUP and Attendant Console Interactions

All current interactions between ISUP and AC remain the same.

Network Attendant Recall (end)

Nodal and Network Recall

An attendant can answer a recall involving a three-way call or a reconfigured three-way call.

Out-of-service Attendant Console

If the AC is out-of-service after a call extension, the system queues all recalls to another console in the same subgroup. The system queues all recalls in the same method that the system queues nodal recall.

Recall Timer Value

The network recall uses only the recall timer value in the switch of the AC.

Activation/deactivation by the end user

Automatic activation of Network Attendant Recall occurs if the user sets the timers defined in table CUSTCONS. See the specified feature descriptions for additional information on the activation of separate features affected by the Network Attendant Recall feature.

Billing

The Network Attendant Recall does not affect billing.

Station Message Detail Recording

The Network Attendant Recall does not affect Station Message Detail Recording.

Datafilling office parameters

The Network Attendant Recall does not affect office parameters.

Datafill sequence

The Network Attendant Recall does not affect datafill. This feature uses current recall timers in Table CUSTCONS. See Automatic Recall for information on how to enter data into recall for the AC.

Tools for verifying translations

The Network Attendant Recall does not use tools for verifying translations.

SERVORD

The Network Attendant Recall does not use SERVORD.

Network Camp-On-II

Ordering codes

Functional group ordering code: MDC00006

Functionality ordering code: does not apply

Release applicability

NA008 and later versions

Requirements

To operate, Network Camp-On-II has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC MBS Minimum, MDC00007
- Base ISUP, ISP70001
- MDC Standard, MDC00003
- TEL CCS7 Base, TEL00008

Description

Network Camp-On-II allows the operation of camp-on across a network of switches. This feature allows an attendant console (AC) to queue an incoming call to a busy station in the attendant network.

Operation

Network Camp-On-II operates if an attendant attempts to transfer a call to a station in the attendant customer group. Network Camp-On-II operates if the attendant attempts to transfer a call to a remote station that the attendant serves. The call must originate from outside the customer group.

When the attendant receives a busy signal, the system sends a TRY CAMPON message to the attendant. This message indicates that camp-on can occur. If the caller requests camp-on, the attendant must press the Release (RLS) or Hold (HOLD) key to queue the call. When the busy station becomes idle, the station automatically rings and connects to the camped-on call. The called party can hear a tone. The tone indicates that a call is waiting. The called party can flash the switch hook to connect to the camped-on call. This process automatically places the original call on hold. The called party can flash the switch hook again to return to the original call. If the caller does not hear a tone the busy station rings when the station becomes idle. This condition can occur if the caller decides that a flash is not necessary. When the busy station hangs up, the call connects.

Network Camp-On-II (continued)

If the busy party does not answer in a set amount of time, Network Attendant Recall returns the call to the attendant. The caller can flash to call the attendant again. The system terminates the recall if the busy station hangs up before the attendant answers.

Translations table flow

Network Camp-On-II does not affect translations table flow.

Limits

The following limits apply to Network Camp-On-II:

- The originating, attendant, and terminating DMS nodes must have Attendant Camp-on (ACO). Intermediate nodes must be able to pass Initial Address Message (IAM) and information messages in the correct state.
- All DMS nodes must have BCS27 software or later.
- The originating DMS must have the base AC to integrated services digital network (ISDN) user part (ISUP) package, NTX844AA.
- The node of the attendant requires the NAS package, NTXA39AA.
- The terminating DMS node needs the base ISUP to Line package, NTX901A14.
- Camp-on requires the node of the attendant to connect to the terminating node through an ISUP trunk. Attempted camp-ons from an ISUP trunk to a PTS (Per Trunk Signalling) trunk generate a BSY-NOCAMPON message.
- The calling party must not have an association with the customer group of the attendant. The called party must be in the same customer group as the attendant.
- The ISUP trunks supply information that the system uses to determine if a request for camp-ons occurs in a customer group. The system does not allow local camp-ons.
- Sometimes camp-on is not possible. The attendant receives a BUSY-NOCAMPON message instead of a BUSY message.
- Sometimes camp-on is possible but fails. The attendant receives a CAMP-ON-RETRY message. This event can occur if all circuits are busy.
- The attendant can release the call before the REL message returns from the terminating DMS node. When this event occurs, the system returns the call to the attendant through the Network Attendant Recall feature. The attendant receives a BSY-CAMPON OK message.

Network Camp-On-II (continued)

- The called station must not be dialing or ringing. The called station must not be on hold or in a lock-out state.
- A station will accept only one camp-on.
- Camp-on with tone is not compatible with stations that have option NDC assigned.
- A call can be already camped-on a busy station when the attendant attempts to camp-on another call. In this event, the attendant hears two seconds of reorder tone. The Destination (DEST) lamp lights for two seconds and turns off. This condition applies if the system does not permit camp-on for the line.
- Camp-on does not work with calls that the attendant originates.

Interactions

The following paragraphs describe the actions between Network Camp-On-II and other functionalities.

- Attendant Call Park. If a station is busy, the attendant can continue to park a call.
- Call Forwarding (CFW). The system can disable Network Camp-On-II for a limited time. The system performs this action if the called station activates Call Forwarding Universal (CFU) or Call Forwarding Intragroup (CFI). Network Camp-On-II has priority over Call Forwarding Busy (CFB).
- Call Hold (CHD). A station must dial the CHD access code to connect to the camp-on call or to return to the original call.
- Calling Line Identification with Flash (CLF). A station with CLF can receive a camp-on call. The station does not hear a tone. To talk to the camped-on party, the station must go on-hook.
- Call Waiting (CWT). The CWT has priority over camp-on.
- Do Not Disturb (DND). The DND overrides camp-on.
- Emergency Service Line (ESL) / Emergency Service Bureau (ESB). The attendant cannot camp-on a party to an ESL or ESB.
- Loudspeaker Paging and Code Calling. The attendant can camp-on a call to a Loudspeaker Paging or Code Calling Line.
- Malicious Call Hold. The system disables Network Camp-On-II for a limited time if the called station activates Malicious Call Hold. Malicious Call Hold does not work during a camp-on call.

Network Camp-On-II (end)

- Ring Again (RAG). If a station has a camp-on call, RAG cannot operate.
- Three Way Calling (3WC). The system disables 3WC on a station for a limited time during camp-on. The station can alternate between the original call and the camped-on call. The station cannot make a 3WC. The attendant cannot camp-on a call to a station that has a 3WC in progress.

Activation/deactivation by the end user

The attendant can press the RLS or HOLD key to camp-on a call to a busy station. The called party can flash or disconnect to connect to the camp-on call. The caller can flash to recall the attendant.

Billing

Network Camp-On-II does not affect billing.

Station Message Detail Recording

Network Camp-On-II does not affect Station Message Detail Recording.

Datafilling office parameters

Network Camp-On-II does not affect office parameters.

Datafill sequence

Network Camp-On-II does not affect datafill.

Tools for verifying translations

Network Camp-On-II does not use tools for verifying translations.

SERVORD

Network Camp-On-II does not use SERVORD.

Network Dial Plan Display

Ordering codes

Functional group ordering code: NI000022, RES00005, MDC00006

Functionality ordering code: does not apply

Release applicability

NA008 and later versions

Requirements

The Network Dial Plan Display requires the following to operate:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC MBS Minimum, MDC00007
- N10 ISDN Base, NI0000007
- NI0 NK-1 PRI Ntwrkng, NI000013
- RES Service Enablers, RES00006
- Base ISUP, ISP70001
- MDC Standard, MDC00003
- TEL CCS7 Base, TEL00008

Description

Network Dial Plan Display improves the current display capabilities of a Meridian business set (MBS) with display. This feature can format the number of the calling party number with the Meridian Switched Network dial plan of the customer. This reverse-translations capability allows the called party to identify calls that originate on other nodes. This feature displays the calling number in a form that the end user can dial.

Operation

Background

Without Network Dial Plan Display, two different sets of formatting rules determine the way the calling party number appears on an MBS display. The formatting rules that apply depend on if the same office serves both parties of a call. For an MBS with a display on a single node, the calling number display has seven digits. This display has seven digits unless option DISPDIGS in Table CUSTSTN (Customer Group Station Option) specifies a different number. For calls across the network, the standard North American numbering plan determines the number of digits displayed. If both the calling and called

Network Dial Plan Display (continued)

parties belong to the same numbering plan area (NPA), only seven digits appear on the display. If the parties belong to different NPAs, the full ten-digit number appears.

The Network Dial Plan Display can display a calling party number in a format that the called end user can use. The end user can use the number to recall the party. A procedure named Reverse translations provides the enhanced display capability.

Reverse translations

Two-customer data tables perform reverse translations of a directory number (DN). Table DNREGION (Directory Number Region) identifies the groups of DNs in a region. A second table, DNREVXLA (Directory Number Reverse Translation), provides the reverse translations algorithms. The different regions defined in the first table determine these algorithms. These tables allow the operating company to specify how the system handles the calling party digits. The system handles the calls based on if the calling party and the called party share the same region.

Only customer groups specified in table CUSTNTWK (Customer Group Network) have this feature. Table CUSTNTWK defines reverse translations and associates the reverse translations with one or more retrievals.

Dial plan support

The data tables used in this feature support any type of dial plan. Some of these plans follow:

- the public North American numbering plan
- electronic switched network dial plans
- coordinated dial plans
- mixed dial plans

This feature also supports different dial plans for different networks in the same end office.

User interface

Network Dial Plan Display does not affect user interface.

Translations table flow

The Network Dial Plan Display translations process appears in the Table flow for Network Dial Plan Display. The method of activation for Network Dial Plan Display appears in the flowchart and data.

Network Dial Plan Display (continued)

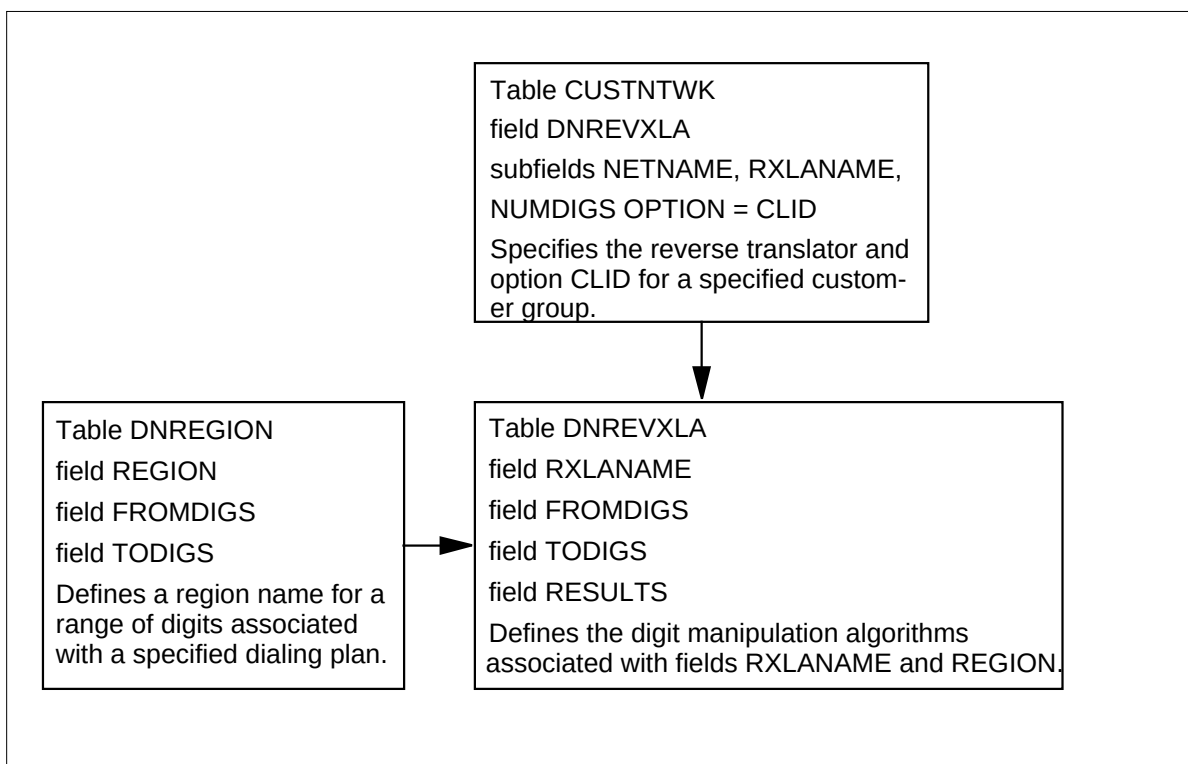
Table DNREGION (Directory Number Region) specifies the sets of numbers that share some aspect of a specified dial plan. The calling and called party numbers must be in the region defined in this table.

Table DNREVXLA (Directory Number Reverse Translation) specifies reverse translations algorithms. These reverse translations algorithms determine how the system handles the calling party digits for MBS display.

Table CUSTNTWK (Customer Group Network) specifies network information for each customer group. This information includes calling line information display and reverse translations information for a customer group.

The Network Dial Plan Display translation procedure appears in the flowchart that follows.

Table flow for Network Dial Plan Display



Network Dial Plan Display (continued)

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

Datafill example for Network Dial Plan Display

Datafill table	Example data
CUSTNTWK	MDCGRP1 PUBLIC 1 (PUBLIC NRXL 8) (CLID ONNET)
DNREGION	LOCAL 222 224
DNREVXLA	LOCAL 1 10 (DEFAULT 0 919 N) \$

Limits

The following limits apply to Network Dial Plan Display:

- The limit of the maximum number of reverse translators in Table DNREVXLA is 1023.
- The maximum number of different areas that Table DNREGION can specify is 4095.
- The amount of data store available limits the different digit ranges associated with a specified area in Table DNREGION.
- The size of the digit ranges and the number of tuples entered determine the amount of data store allocated for Table DNREGION.
- The DN must have the feature option Automatic Recall (AR), Automatic Call Back (ACB), or Dialable Directory Number (DDN). The DN must have these feature options to execute the REVXLVER (reverse translations) command.
- Group Intercom (GIC) and speed call codes must expand to full format for input in the REVXLVER command.
- In all types of calls, table NETNAMES (Network Names) can suppress display of the calling party number at the network level. Table DNGRPS (Directory Number Groups) or table DNATTRS (Directory Number Attributes) can suppress presentation of the calling party number at the DN level.
 - The calling party number does not display in the following condition. This condition occurs if table NETNAMES has the SUPPRESS option assigned against the network identifier associated with the call.
 - The calling party number does not display if table DNGRPS has the SUPPRESS option assigned against a group of DNs. The group of DNs includes the calling party number. The calling party number does not display if table DNATTRS has the SUPPRESS option assigned.

Network Dial Plan Display (continued)

- The calling number does not display when the Calling Number Delivery Blocking (CNDB) feature is active on single-node calls. The CLASS end users can activate CNDB for each call.

Note: If you assign the SUPPRESS option with SUPPRESS_NUMBER set to Y, the activation of CNDB toggles the suppression state to N. The system delivers the DN separately for each call.

- The presentation indicator field in the calling party number parameter can deny the display of calls incoming over integrated services digital network user part (ISDN ISUP) trunks. The message received from the trunk contains the initial address message (IAM). The originating office determines the presentation indicator and transmits the indicator to the terminating office in the IAM.
- The display indicator field in the calling party number information element can deny the display of calls incoming over primary rate interface (PRI) trunks. The message received from the trunk contains the calling party information element. The originating office determines the display indicator and transmits the indicator to the terminating office in the SETUP message. See the Network Name Display feature (AG0980) for more information.

Interactions

Network Dial Plan Display does not have interactions.

Activation/deactivation by the end user

Network Dial Plan Display does not require activation or deactivation by the end user.

Billing

Network Dial Plan Display does not affect billing.

Station Message Detail Recording

Network Dial Plan Display does not affect Station Message Detail Recording.

Datafilling office parameters

Network Dial Plan Display does not affect office parameters.

The office parameters Network Dial Plan Display uses appear in the following table. Refer to *Office Parameters Reference Manual* for more information about office parameters.

Network Dial Plan Display (continued)

Datafill sequence

Two-customer data tables perform the reverse directory number translations. Table DNREGION identifies groups of DNs in the same area. Table DNREVXLA provides the reverse translations algorithm. The different areas defined in Table DNREGION determine the algorithm. These two tables specify the method of handling the calling party digits.

Table CUSTNTWK specifies the network information for each customer group. Table CUSTNTWK now provides information for the reverse translations. This table also identifies the calling line information display (CLID) option.

The tables that require datafill to provide Network Dial Plan Display appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Network Dial Plan Display

Table	Form
DNREGION	2081A, B
DNREVXLA	2082A, B
CUSTNTWK	2308A, B

Datafilling table DNREGION

Table DNREGION (Directory Number Region) specifies the sets of numbers that share one aspect of a specified dial plan. For example, this table can specify all DNs that belong to the same local calling area. Both the calling and called party numbers must be in the region defined in this table. Table DNREVXLA uses the regions defined in this table to define digit manipulation algorithms. Each tuple in Table DNREGION contains a name and a range of digits. The name identifies the region. An upper and lower limit defines the range of digits that the region includes. The limit can define a maximum of 4095 areas.

The default region, can represent all possible digit ranges. The system defines the default region internally. Table DNREGION cannot specify the default region.

Network Dial Plan Display (continued)

Datafill for table DNREGION for this feature appears in the following table. The fields that apply to this feature appear in this table. See the data schema for details on all fields in this table.

Datafilling table DNREGION

Field	Subfield or refinement	Entry	Explanation and action
REGION			Region Name This field specifies a 15-character alphanumeric region name. Enter a region name.
FROMDIGS			From Digits This field specifies the lowest digits of the digit range associated with this area name. Enter a value from 1 to 11.
TODIGS			To Digits This field specifies the highest digits of the digit range associated with this area name. Enter a value from 1 to 11.

Datafill example for table DNREGION

Sample datafill for table DNREGION appears in the following example.

MAP example for table DNREGION

TABLE: DNREGION		
REGION	FROMDIGS	TODIGS

LOCAL	222	224

Datafilling table DNREVLXLA

Table DNREVLXLA (Directory Number Reverse Translation) specifies the reverse translations algorithms. These algorithms determine the method used to handle the calling party digits for an MBS display. The screening tests performed using the regions defined in table DNREGION determine the digit manipulation algorithms. Screening tests require both the calling and called numbers as input. The tests pass if the region specified for the test includes both numbers. The screening tests run on each region in the order in which the regions appear in each tuple. The system applies the digit manipulation algorithm associated with the first region that passes screening. A default

Network Dial Plan Display (continued)

algorithm at the end of each list can handle conditions in which all previous tests fail. The DEFAULT region name identifies this algorithm. The DEFAULT region is already defined to include all possible digit ranges. Only the last result of a specified tuple can specify the DEFAULT region. Screening tests performed on this area always pass.

Each tuple in table DNREVLXA contains a name, a range of digits, and a translation result. The name specifies the reverse translator. An office can have more than one translator. An office can specify a default translator.

Datafill for Table DNREVLXA for this feature appears in the following table. The fields that apply to this feature appear in this table. Refer to the data schema section for details on all fields in this table.

Datafilling table DNREVLXA (Sheet 1 of 2)

Field	Subfield or refinement	Explanation and Action
RXLNAME		Reverse Translation Algorithm Name This field specifies the reverse translation algorithm name. Enter a maximum of eight alphanumeric characters.
FROMDIGS		From Digits This field specifies the lowest digits of the digit range associated with this region name. Enter a value from 1 to 11.
TODIGS		To Digits This field specifies the highest digits of the digit range associated with this region name. Enter a value from 1 to 11.
RESULTS		Region Translation Results This field contains a maximum of 20 area results. Each result contains subfields REGION, DELDIGS, PRFXDIGS, and OPTPRFX.
	REGION	Region Name This subfield specifies a 15-character alphanumeric area name known to Table DNREGION. Enter a region name. If table DNREGION is empty, only the values DEFAULT and VACANT appear in this subfield. Table DNREGION already contains definitions for DEFAULT and VACANT. The DEFAULT region can specify a region that includes all possible DNS. Only the last result of a list can specify this area.

Network Dial Plan Display (continued)

Datafilling table DNREVLXA (Sheet 2 of 2)

Field	Subfield or refinement	Explanation and Action
If subfield REGION specifies VACANT, the system does not prompt for subfields DELDIGS, PRFXDIGS, and OPTPRFX.		
	DELDIGS	Number of Leading Digits to Delete This subfield specifies the number of leading digits deleted from the calling digits. Enter a value from 0 to 15.
	PRFXDIGS	Prefixed Digits This subfield specifies the digits prefixed to the calling digits. Enter N when digits do not prefix to the calling digits or a maximum string of 11 digits.
	OPTPRFX	Optional Prefix Digits This subfield specifies the optional digits prefixed to the calling digits at the beginning of the digit string. Enter N when optional digits do not prefix to the calling digits or a maximum string of 11 digits.

Datafill example for table DNREVLXA

MAP example for table DNREVLXA

TABLE : DNREVLXA						
RXLNAME	FROMDIGS		TODIGS		RESULTS	

LOCAL	1	10	(DEFAULT 0	919	N)	\$

Datafilling table CUSTNTWK

Table CUSTNTWK (Customer Group Network) specifies network information for each customer group. This information contains the reverse translator. Field DNREVLXA identifies the reverse translator for each customer group. The reverse translator associates with the network specified in subfield NETNAME over which the system routes the calls. Subfield CLIDOPT can assign option CLID to display the calling number for network calls. Subfield CLID also can specify the type of network calls for which the option applies. This subfield can contain ONNET (on-network calls) for calls that originate on the same network as the called party. This subfield can

Network Dial Plan Display (continued)

contain OFFNET (off-network calls) for all network calls. The original location of these calls is not important.

Datafill for Table CUSTNTWK for Network Dial Plan Display appears in the following table. The fields that apply to this feature appear in this table. Refer to the data schema section for details on all fields in this table.

Datafilling table CUSTNTWK (Sheet 1 of 2)

Field	Subfield or refinement	Explanation and action
DNREVLXA		DN Reverse Translators This field contains subfields NETNAME, RXLANAME, and NUMDIGS.
	NETNAME	Network Name This subfield specifies the 1- to 32-character alphanumeric name of the network with the reverse translator. Enter the network name. Leave this subfield blank for the DMS-300 switch.
	RXLANAME	Reverse Translator Name This subfield specifies the 1- to 8-character alphanumeric name of the reverse translator associated with the network specified in subfield NETNAME. Enter the reverse translator name. Leave this subfield blank for the DMS-300 switch.
	NUMDIGS	Number of Digits This subfield specifies the number of digits to use for the reverse translations process by applications that use the reverse translator. Subfield RXLANAME identifies the reverse translator. Enter a value from 1 to 10. Leave this subfield blank for the DMS-300 switch.
OPTION		Option This field contains several options. For this feature, enter CLID to assign the calling line identification option to a customer group.

Network Dial Plan Display (continued)

Datafilling table CUSTNTWK (Sheet 2 of 2)

Field	Subfield or refinement	Explanation and action
If OPTION contains CLID, you must enter data in subfield CLIDOPT.		
	CLIDOPT	CLID Option This subfield specifies the type of calls for which the system displays calling line information. Enter one of the values described in the following paragraphs. Enter ONNET to indicate that the CLID option is available on calls that originate in the same network as the CLID option. This CLID option associates with the called party. Enter OFFNET to indicate that the CLID option is available on all networked calls. The origin of these calls is not important. Enter INTRAGRP to indicate that CLID is available only to specified terminating agents. These terminating agents belong to the same customer group as the originating agent. The Table OFCENG (Engineered Office) tuple KSET_INTER_GRP_DISP overrides the entry for subfield CLIDOPT. You must set tuple KSET_INTER_GRP_DISP to N in table OFCENG for displays to work with the datafill in subfield CLIDOPT.

Datafill example for table CUSTNTWK

Datafill for table CUSTNTWK appears in the following example.

MAP example for table CUSTNTWK

```
TABLE : CUSTNTWK
CUSTNAME    NETNAME    NETCGID    DNREVLXA    OPTION
-----
MDCGRP1     PUBLIC      1          (PUBLIC NRXL 8) (CLID ONNET)
```

Tools for verifying translations

REVLVER

The REVLVER utility is a low-level diagnostic tool like the translation verification (TRAVR) tools. This tool simulates reverse translations from a specified origination to a specified destination. The REVLVER tool examines and displays translations data for reverse translations call processing. This tool also can display the reverse translations number result.

Network Dial Plan Display (continued)

REVXLVER subcommands

The REVXLVER utility has four subcommands that provide translations data. The four subcommands follow:

- ACB for analyzing ACB reverse translations
- AR for analyzing AR reverse translations
- DDN for analyzing DDN reverse translations
- R (region) for tracing Table DNREGION

The command syntax for each of the subcommands follows:

- REVXLVER ACB DN Digits Option
 - DN—the DN of the line that originates with the ACB option. The DN has seven or ten digits.
 - Digits—the digits that identify the destination. The digits must be in a sequence of 1 to 18 digits. Another name for this sequence is the transaction capability application part (TCAP) number.
 - Option—the type of output:
 - T—displays the sequence of tables used to translate and the correct tuples
 - NT—displays the reverse translation output digits for the associated DN
 - B—displays both the sequence of tables and the output digits
- REVXLVER AR DN Digits Option Netname
 - DN—the DN of the line that originates with the feature AR
 - Digits—the digits identifying the destination. The destination must have ten digits.
 - Option—the type of output:
 - T—displays the sequence of tables used to translate and displays the correct tuples
 - NT—displays the reverse translation output digits for the associated DN
 - B—displays both the sequence of tables and the output digits
 - Netname—the network name identifies the network from which the call originated. This field is optional. This field must contain a correct network name. The default name is PUBLIC.

Network Dial Plan Display (continued)

- REVXLVER DDN DN Digits Option Netname
 - The descriptions for the different fields for DDN are the same as the fields for the REVXLVER AR subcommand. See the REVXLVER AR DN Digits Option Netname description.
- REVXLVER R Digits Reverse Translator Name (RXLANAME)
 - Digits—the number to look for in Table DNREGION
 - RXLANAME—a correct reverse translator name in Table DNREVXLA

Reverse translations datafill information

The ACB uses the digits as the outgoing memory slot (OMS) of the end user stored the digits. The system accesses reverse translations datafill to convert the digits to a fixed format of ten digits. The ACB analyzes the North American public network dialing plan and records the following:

- A correct public network called number can have 7, 8, 10, or 11 digits. Any other number of digits is not correct.
- If the number has 11 digits, the format is P-NPA-NXX-XXXX, where P is a prefix. The prefix is normally 1. The system uses the ten digits of the number at the far right.
- If the number has ten digits in the format of NPA-NXX-XXXX, the system uses the number in that format.
- If the number has eight digits, the NPA of the number is the same as the originator. The eight digits are in the format of P-NXX-XXXX. The originator is the ACB end user. The system adds the seven digits of the called number at the far right to the NPA. This addition forms a number with ten digits.
- If the number has seven digits, ACB accesses reverse translations datafill. If the ACB does not find datafill, the system records the NPAs as the same. The system records the NPA of the eight-digit destination as the same as the eight digit NPA of the originator.

The ACB feature can access the reverse translations datafill with one of the following methods:

- the hard-coded DN10DXLA reverse translator name
- the public TCAP translations (PUBTCXLA) option
- the private TCAP translations (PRITCXLA) option

In the first method, the reverse translator name DN10DXLA and the DN can access the reverse translations datafill. This method does not need to refer to

Network Dial Plan Display (continued)

Table CUSTNTWK because the hard-coded reverse translator name is present for ACB. The digits must be a sequence of 7, 8, 10, or 11 digits. The result from the reverse translation always must be the ten-digit sequence, identified in the previous analysis.

The second method applies when the customer group in table CUSTHEAD (Customer Group Head) has option PUBTCXLA assigned. The value for option PUBTCXLA is the reverse translator. Reverse translations converts a dialed DN to a DN that the TCAP can use. The outgoing call memory (OCM) stores the dialed DN. Table DNREGION does not require datafill. The tuple in table DNREVLXA that corresponds to PUBTCXL has only the default result tuple. The digits must be a sequence of 7, 8, 10, or 11 digits. The result must be a ten-digit sequence. Option PUBTCXLA can have the value DN10DXLA. The system accesses this value with the digits for reverse translations, as described for the first method.

The third method applies when the customer group has option PRITCXLA assigned in Table CUSTHEAD. The ACB feature performs two stages through reverse translations datafill. The first stage uses the private TCAP translator and the digits. The private TCAP translator and the digits strip off the public network access prefix from the dialed number. The result is a 7-, 8-, 10-, or 11-digit number. The second stage converts the number to a TCAP number. If the result is an 8-, 10-, or 11-digit number, the system automatically derives the TCAP number internally. The system does not use table DNREVLXA datafill to derive this number. If the result is a seven-digit number, the system automatically uses the customer group PUBTCXLA. The system uses the customer group PUBTCXLA to access Table DNREVLXA datafill. This datafill adds the NPA to form the TCAP number. If the customer group does not have option PUBTCXLA defined, the system uses the internal ACB translator name (DN10DXLA). See this document for additional information on how to use the private and public TCAP translators.

The AR subcommand uses the digits as stored in the incoming memory slot (IMS) of the end user. The digits are ten-digit numbers. These digits require conversion to the dialable format to perform the call setup for the MDC environment. The reverse translations can perform this conversion.

The results of the reverse translations data are processed with the following method to obtain the dialable DN for a public network:

- The system obtains the prefix digit from Table DNREVLXA if 11-digit dialing is necessary for the AR call. The system adds the prefix digit to the ten-digit number.
- The system obtains the number as identified from the IMS if ten-digit dialing is necessary for the AR call.

Network Dial Plan Display (continued)

- The data in table DNREVXLA can remove the NPA and add the prefix digit. These actions occur if eight-digit dialing is necessary for the AR call.
- The data in table DNREVXLA removes the NPA if seven-digit dialing is necessary for the AR call.

The private network calls can require two passes in the reverse translations. When digits stored in IMS are from a private network, the system must derive destination digits from the dialable DN. The dialable DN is the DN that results from reverse translations performed on the IMS digits. The system accesses reverse translations again with the derived dialable number and the AR algorithm. Private network calls only apply to the MDC environment.

Output from REVXLVER appears in the following example. In this example, output from REVXLVER displays the ACB subcommand with the B option. This example displays the sequence of tables and the output digits. In this example, table CUSTHEAD is a requirement to perform the translation because this translation requires the name of the translator. Options PRITCXLA and PUBTCXLA for the ACB subcommand appear in this example.

Output from REVXLVER when REVXLVER verifies Network Dial Plan Display appears in the following example.

Network Dial Plan Display (continued)

REVXLVER ACB output example for Network Dial Plan Display

Line	Output
	REVXLVER ACB 6228114 96216055 B
1	TABLE IBNLINES
2	HOST 01 0 10 01 0 DT STN IBN 6228114 MDCGRP1 0 2 613 ACB AR \$
3	TABLE CUSTHEAD
4	MDCGRP1 MDCXLA1 MDCDIG1 NIL (PRITCXLA MDCPRIT1) (PUBTCXLA
5	MDCPUBXLA1)
6	FIRST PASS:
7	TABLE DNREXLA
8	MDCPRIT1 9 9 (DEFAULT 1 N N)
9	TABLE DNREGION
10	DEFAULT DIGIT MANIPULATION RESULT USED
11	SECOND PASS:
12	TABLE DNREXLA
13	MDCPUBXLA1 621 621 (DEFAULT 0 819 N)
14	TABLE DNREGION
15	DEFAULT DIGIT MANIPULATION RESULT USED
16	DESTINATION DIGITS
17	8196216055
18	+++ REVXLVER: SUCCESSFUL TRACE

Output from REVXLVER appears in the following example. In this example, output from REVXLVER displays the AR subcommand with the option that displays the sequence of tables only. In this example, Table CUSTNTWK must contain the translator name. Table DNREXLA and table DNREGION appears in this example. Translation is not necessary for the destination digits. The network name default is PUBLIC.

The AR subcommand tool uses the digits as the tool uses the digits in the following condition. This condition is when the IMS of the end user stores the digits. The digits are in a ten-digit format. The digits require conversion to the dialable format to perform call setup. The system accesses reverse translation datafill to perform this conversion.

Network Dial Plan Display (end)

REVXLVER AR output example for Network Dial Plan Display

Line	Output
	REVXLVER AR 6228114 6136216055 B
1	TABLE IBNLINES
2	HOST 01 0 10 01 0 DT STN IBN 6228114 MDCGRP1 0 0 613 (ACB) (AR) \$
3	TABLE CUSTNTWK
4	MDCGRP1 PRIVJF 6 (PRIVJF DEMOMDC 10) (PUBLIC DEMOPUB 10) (CLID
5	OFFNET)
6	TABLE DNREVXLA
7	DEMOPUB 0 9 (ARREG1 0 1 N) (ARREG2 3 416 n)
8	TABLE DNREGION
9	ARREG1 6228 6228 ARREG1 62160 62160
10	DIGITS USED TO CALL 6136216055 FROM 6228114
11	16136216055
12	+++ REVXLVER : SUCCESSFUL TRACE

Output from REVXLER appears in the following example. The output from REVXLER can display the R subcommand that scans Table DNREGION.

REVXLVER AR output example for Network Dial Plan Display

Line	Output
	REVXLVER R 613824 POTSAR
1	TABLE DNREGION
2	LOCAL_C 613824 813824
3	TOLL_613 613 613
4	+++ REVXLVER: SUCCESSFUL TRACE

See this document for more information on how to use the REVXLVER utility for ACB/AR.

SERVORD

Network Dial Plan Display does not use SERVORD.

Network Display Enhancement

Ordering codes

Functional group ordering code: MDC00006

Functionality ordering code: does not apply

Release applicability

NA008 and later versions

Requirements

To operate, Network Display Enhancement has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC Standard, MDC00003
- MDC MBS Minimum, MDC00007
- Base ISUP, ISP70001

Description

Network Display Enhancement extends the ability of a single-node Meridian business set (MBS) with display. The extended ability provides information on specified redirected calls. These calls occur between nodes that a common channel signaling 7 (CCS7) network links. The name of the calling or called party for direct calls appears in the display. The directory number (DN) and call progress information appears in the display.

Network Display Enhancement provides full transparent display abilities to the end user to indicate the status of the following:

- redirected call transfer (CXR) calls
- call forwarding (CFW) calls
- three-way conference (3WC) calls

Network Display Enhancement operates with the MBS Display Called Number feature (BV0987) and the Network Name Display feature (AG0980). These features allow Network Display Enhancement to provide complete calling and called party information. Names can appear in the display if the Name and Reason Display feature (AL0617) is active.

Network Display Enhancement (continued)

Operation

Background

Two-party calls and CFW currently have full transparent display of the DN and name of the called party. Network Display Enhancement provides full transparent display to the caller on node and network calls. Call pickup (CPU), CFW and CXR have the following limited abilities with Network Display Enhancement:

- CFW: The system cannot send base station information in multinode call forwarding. The caller does not receive the DN of the first base station.
- CPU: The caller does not receive call progress information like the name and DN of the called party.
- CXR: Call transfer contains the DNs of the two parties that remain in a multinode call transfer display.

Network Display Enhancement makes network call access transparent to end users through identical display information. This feature uses the same control parameters for the network display algorithm as per-node call access.

Call progress message and call progress information

The system sends a standard call progress message (CPG) to the caller. The message indicates the steps the call makes. The message indicates if the system forwarded the call. Network Display Enhancement provides the following:

- original redirection reason
- redirection indicator
- call forwarding no reply undergone indicator
- redirection reason
- redirection counter

The system returns the CPG to the end user that originated the call. The CPG carries information about the events that occur during call setup. The CPG is available when the call is active.

A proprietary reconfiguration progress message (RPM) sends call progress information. The system can send this message to the origination number or the destination number during any state of the call.

Network Display Enhancement provides redirection information that indicates if the user forwarded the call. The current field is one byte. This field contains the reason the system forwarded the call from the first base station. The upgrade is two bytes. The upgrade indicates if the system forwarded or

Network Display Enhancement (continued)

rerouted the call. The upgrade indicates if the calling party can receive the redirection information.

Original called number is the information that includes the number called before the system forwarded the call. This feature includes this information. When the installation of original called number occurs, the redirecting number becomes the number that redirects a call. This call is a call that the system forwarded more than one time.

Note: This feature does not generate the redirecting number.

In standard two-party calls, the address completion message (ACM) does not have the connected number parameter. The dialed digits appear on the bottom line to the caller. If the end user makes the call through an attendant console, the ACM can include the connected number parameter. The ACM can include the connected number parameter if the originating office requested the number with the optional forward call indicators. The initial address message (IAM) contains the call indicators. See "Calling Number and NCOS Display on Attendant Console" for additional information on the attendant console as the calling party.

Message flow

A description of the message flow across the network for different call types that Network Display Enhancement supports, appears in the following paragraphs:

- Basic call: The caller can request the name of the connected party and the availability of the name in the IAM. This condition can occur under the following conditions:
 - both the caller and the destination party in a two-party call have MBSs
 - both sets are entered with the name against the DN

The connected party returns an ACM with the name and a request for the name of the caller. The exchange of information occurs with the use of an information message (INF) in a pass-along message (PAM).

- Busy line call termination: When the caller dials the destination digits and the number is busy, the caller receives a CPG. The CPG provides the name of the called party. The caller receives a CPG before the caller hears a release message (REL). The REL indicates that the called party is busy. The CPG includes a busy tone indicator in addition to information on the destination.
- Call pickup: The CPU feature operates by the same method as basic call. The difference in operation is that the CPG transmits the information. The information in the CPG includes the name and DN of the person who

Network Display Enhancement (continued)

answers the call. If the terminating office does not have the name of the caller and a DN, the CPG includes a request for the information. A third party can answer a call after the called party answers the call. This condition occurs if the original called party answers the call when another person tries to answer during a race condition. The system sends an answer message (ANM) to the caller. An RPM with the third-party information follows the ANM.

- Conference call: The system sends an RPM in a PAM to all parties connected. In an internode conference call, a controller that establishes the conference call sends an RPM to each party. The RPM indicates that the conference call is in progress. The delay of the RPM until the parties receive an ACM or a PAM can be a requirement. The controller must delay the RPM when both the following conditions occur:
 - more than one party attempts to connect at the same time during a race condition
 - the controller sets up the conference call before the controller receives an RPM
- Call transfer: When CXR changes the call configuration, the system sends an RPM in a PAM to the far end. The RPM indicates the changes. The RPM indicates that the call transferred. The RPM includes backward or forward call indicators. The RPM does not include additional information about the connections that remain. If additional information is a requirement, the far end sends an information request message (INR).
- Call forwarding: Three types of CFW are available. These types are call forward universal (CFU), call forward busy (CFB), and call forward don't answer (CFD). The CFU and CFB options provide the same messages. The CFD option is different. Options CFU and CFB send a CPG. The CPG indicates that the system forwarded the call. The CPG event indicator specifies the reason the system forwarded the call from the first base station in the chain. The event indicator includes the address information for the base station. If the base station is at a tandem office, the outgoing IAM contains the name and DN. The CPG includes all information on the base station and connected party.
 - In CFD, the system sends the CPG from the number to which the system forwarded the original destination. The CPG for each CFD includes the type of call forwarding. The first base station information does not determine the type of call forwarding in the CPG. The call origination determines if call progress information is a requirement. If

Network Display Enhancement (continued)

the CFD occurs in a forwarded chain, the caller receives more than one CPG.

A comparison of current and new network display abilities that Network Display Enhancement provides, appears in the following table. The information that appears is the same as the current node display if the table does not specify other information.

Features and network capability (Sheet 1 of 2)

Feature	Old network capability	New network capability
CPU and DCPU	Orig: connected name/DN	Orig: connected name/DN and CPU reason
DCBI	Term: calling name/DN CPU name/DN and CPU reason DN Orig: name of the pickup party and DN Term: name of the pickup party and DN	Term: no change Pickup: no change Orig: no change Term: no change
CXR	1st party: connected name/DN 2nd party: connected name/DN	Connected name/DN and reason
Intranode		
Remote-node	1st party: connected name/DN 2nd party: connected name/DN	Connected name/DN and reason
Internode		
Exr to MF trunk	1st party: connected DN 2nd party: connected DN 1st party: controller name/DN 2nd party: default message	Connected name/DN and reason 1st party: Default message and reason

Network Display Enhancement (continued)

Features and network capability (Sheet 2 of 2)

Feature	Old network capability	New network capability
CFW	1st party: connected name/DN and reason	1st party: connected name/DN, 1st base station name/DN and reason
Intranode	2nd party: connected name/DN, 1st base station name/DN and reason	2nd party: no change
Remote-node	1st party: connected name/DN and reason	1st party: connected name/DN, 1st base station name/DN and reason
Internode	2nd party: connected name/DN 1st base station name/DN and reason	2nd party: no change
	1st party: connected name/DN and reason	1st party: Connected name/DN, 1st base station name/DN and reason
	2nd party: connected name/DN and reason	2nd party: connected name/DN, 1st base station name/DN and reason
3WC Conf.	Conferee: controller name/DN	All parties: CONFERENCE reason
CONF6	Conferee: controller name/DN	All parties: no change
MeetMe	Conferee: default message	All parties: no change
Preset	Orig: dialed digits	All parties: no change
	Conferee: default message	
CPK	Parked: parker name/DN	Parked: no change
Parked: parker name/DN and RCL reason	Parked: parker name/DN and RCL reason	Parked: no change

Translations table flow

Network Display Enhancement does not affect translations table flow.

Limits

The following limits apply to Network Display Enhancement:

- When common channel signaling 7 (CCS7) network display information is not in use, MBS display is the current per-node display for trunk access.

Network Display Enhancement (continued)

The INFs or RPMs do not send the information if protocol control parameters for the end-to-end method do not have PAM.

- Single-node display software displays information when interworking occurs. Called party and progress information is not available because the call is not a CCS7 network call.
- The design of this feature prevents the provision of information on the redirection reason for the last base station.
- Network protocol problems can occur if software at different switching offices is not compatible. Network Display Enhancement requires additional software. The software makes sure that the integrated services digital network (ISDN) user part (ISUP) messages and parameters do not affect specified switching offices. These switching offices use earlier DMS-100 releases or other vendor equipment.

If the remote office uses software from release BCS26 or earlier, several of the following limits and differences occur:

- The system does not send a CPG message in earlier versions. The ACM or ANM includes the information.
- The redirecting number contains the information on the first base station. The original called number contains this information in versions after BCS26.
- An INF displays the reconfiguration information of the connected party to the origination number when the information applies. This information appears in an RPM in earlier versions.
- Redirection information is not standardized in earlier versions. The parameter that stores the information for the last base station must expand. This expansion allows the parameter to provide the information to switching offices under these conditions.

Interactions

A description of the actions between Network Display Enhancement and other functionalities appears in the following paragraphs.

- *Network Calling Line Identification Display (CLID) and Network Class of Service (NCOS) Display Interaction with Three-Way Conference (3WC)*

Calls that originate from the same network as the destination digits can have the display ability. This condition can occur when field CLID in table CUSTNTWK (Customer Group Network) defaults to ONNET. In both nodal and network displays, if field CLID contains OFFNET, all network

Network Display Enhancement (continued)

calls have display ability. The original location of the network calls does not affect the display ability.

- *Integrated Services Digital Network User Part (ISUP) Protocol Version*
In table CUSTSTN (Customer Group Station Option), fields NAMEDISP and REASDISP control the assigned display option.
- *Network Name Display for Attendant Console*
Field NMXCHG in table NETNAMES (Internal Logical Network Names) determines if the network supports the exchange of name information.

Activation/deactivation by the end user

Network Display Enhancement does not require activation or deactivation by the end user.

Billing

Network Display Enhancement does not affect billing.

Station Message Detail Recording

Network Display Enhancement does not affect Station Message Detail Recording.

Datafilling office parameters

Network Display Enhancement does not affect office parameters.

Datafill sequence

The table that requires datafill to implement Network Display Enhancement appears in the following table.

Datafill requirements for Network Display Enhancement

Table	Purpose of table
REASONS	Business Set Reason Display contains displays of different feature and call progress information messages on an MBS with display. Network Display Enhancement introduces a new reason identifier, CXRMSG. Call transfer uses this identifier.

Datafilling table REASONS

Table REASONS contains the display messages for different call events, like call transfer recall. Table REASONS contains a default set of reasons and the associated display messages. The name of this default reason set is DEFAULTSET. The DMS switch automatically enters the default reason set. Table REASONS requires datafill if the customer group wants display

Network Display Enhancement (continued)

messages that DEFAULTSET did not provide. The default display message for a call transfer recall is CALL_TRANSFER.

Datafill for Network Display Enhancement for table REASONS appears in the following table. The fields that apply to Network Display Enhancement appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table REASONS

Field	Subfield or refinement	Entry	Explanation and action
REASNSET			Reason Set This field specifies the 1- to 16-character alphanumeric name of the reason set. Enter the reason set name. The default is DEFAULTSET.
REASONID			Reason Identification This field specifies the name of the reason. Enter CXRMSG to indicate a display message for call transfer.
MESSAGE			Displayed Message This field specifies a message for the option you want to program. Enter a message.
Note: Messages can contain a maximum of 15 characters. The correct characters are uppercase A to Z, 0 to 9, period (.), colon (:), dash (-), asterisk (*), octothorpe (#), and underscore (_). An underscore appears as a space on the display.			

Datafill example for table REASONS

Sample datafill for table REASONS appears in the following example.

MAP example for table REASONS

TABLE: REASONS		
REASNSET	REASONID	MESSAGE
DEFAULTSET	CXRMSG	CALL_TRANSFER

Tools for verifying translations

Network Display Enhancement does not use tools for verifying translations.

Network Display Enhancement (end)

SERVORD

Network Display Enhancement does not use SERVORD.

Network Message Waiting Indicator (MWI)

Ordering codes

Functional group ordering code: MDC00006

Functionality ordering code: does not apply

Release applicability

BCS33 and later versions

Requirements

To operate, Network Message Waiting Indicator (MWI) has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC Standard, MDC00003
- SS7 Trunk Signaling, SS700001
- TEL CCS7 Base, TEL00008

Description

The Network MWI feature allows a message service on one node to activate and deactivate the subscriber MWI on a different node. The Network Message Indicator feature can perform this action if the two nodes support transaction capability application part (TCAP) communication.

The nodes must support TCAP communications according to voice message storage and retrieval. The nodes must have Integrated Services Digital Network (ISDN) primary rate interface (PRI) connections. These connections provide the message service with subscriber directory numbers (DN) and subscriber names, if the names are available.

Background information

The Message Waiting (MWT) feature notifies the subscriber that the system queued a message against the DN of the subscriber. The subscriber dials an access code to access the message service and retrieve the messages.

The TCAP builds and sends messages that instruct the node of the subscriber to activate or deactivate an MWI. The system sends these messages in packages. The signaling connection control part (SCCP) of the Common Channel Signaling No. 7 (CCS7) network obtains a TCAP package destination address through global title translations (GTT).

Network Message Waiting Indicator (MWI) (continued)

The GTT provides a TCAP package destination address in a called party address (CDPA). A CDPA contains a combination of point code (PC), subsystem number (SSN), and global title (GT). The PC identifies each node in a CCS7 network. The PC routes messages through the network. The SSN and GT identify each TCAP application.

The SMDI provides a central answering service. To provide this service, the SMDI integrates the following features:

- the Call Forwarding (CFW)
- Uniform Call Distribution (UCD)
- Message Waiting (MWT)

The SMDI contains a group of UCD agents that receive information on incoming calls on a dedicated data link interface. The incoming information includes the calling party number, the forwarding station number, and the type of call forwarding involved.

The SMDI subscribers forward telephones to the message desk. At the message desk, callers can leave messages with one of the following:

- an operator
- a text messaging system (TMS)
- a voice messaging system (VMS)

To retrieve messages from the TMS, SMDI subscribers log on to the SMDI. The subscribers read the messages the attendant posted. To retrieve messages from the VMS, subscribers dial the SMDI directly. The subscribers enter a password. Refer to *Meridian Digital Centrex Simplified Message Desk Interface Set-Up and Operation*, 297-2051-104 for additional information on the SMDI

An ISDN PRI connects a DMS-100 ISDN switch to another switching node. The PRI allows subscribers to access advanced network services for voice and data.

Operation

The node of the message center is the host. The subscriber node is the server. A TCAP for message centers or an ISUP PRI for SMDIs must connect hosts to servers.

Network Message Waiting Indicator (MWI) (continued)

Message service

When a message service initiates a request to activate a subscriber MWI, the following occurs:

- From the host node, the VMS requests message waiting activation on the server node. The request includes the following data:
 - service key
 - destination DN
 - message service ID DN
 - calling DN
 - BC requested parameter
 - calling name
 - message service ID name
 - message service type
- The Network MWI feature does not use the calling name, message service ID name, and message service type. Feature AG0980, Network Name Display can use the calling and message service ID names.
- The server node correctly activates the subscriber message waiting lamp.
- The server node sends the host a TCAP acknowledgment of successful activation.

The system handles Network MWI deactivation like deactivation. The host node VMS initiates the deactivation request. The host node sends the same data. The server node deactivates the message waiting lamp. The server node notifies the host.

SMDI

An SMDI agent can initiate a request to notify a subscriber that a message waits at the SMDI. This message is a request to activate a subscriber MWI. The following events occur to initiate this request:

- From the host node, the SMDI agent enters the command OP:MWI ffffff!.
- The GTT uses the subscriber DN and the null SSN to provide a destination point code (DPC).
- The TCAP sends a package with the DPC and the instructions MWT ON to the server node.

Network Message Waiting Indicator (MWI) (continued)

- On the server node, the DPC locates the subscriber line. The MWT activates.
- The server node sends the host TCAP acknowledgment of successful activation.

To retrieve messages, the subscriber dials the SMDI directly. The subscriber can dial a call request retrieval (CRR) code. Network Message Services (NMS) CRR uses reverse DN translations to route the call to the message desk. You must correctly enter data in tables CUSTNTWK, DNREGION, and DNREVLXA to allow network CRR to operate.

Note: For additional information on reverse DN translations, see feature AG0981, Network Dial Plan Display, in this document.

The system does not automatically remove messages from the message queue of the subscriber when the subscriber retrieves messages with CRR. The system removes the messages when the MWI deactivates.

The system handles Network MWI deactivation like activation. An SMDI agent enters the command RMV:MWI ffff. The GTT generates a DP. The system sends TCAP package with the instructions MWT OFF to the server.

TCAP negative acknowledgment

If a request to activate or deactivate an MWI fails, the TCAP returns negative acknowledgment (NACK) treatment to the host. The acknowledgment indicates one of the following reasons for the failure:

- Task refused—indicates that the server overloaded. The server cannot handle the request.
- Unassigned DN—indicates that the destination DN is not assigned to an active interface.
- Notification unavailable to destination DN—indicates that the system cannot immediately notify the destination DN. An out of service DN can cause this response.
- VMSR ID did not match subscriber profile—indicates that the destination DN does not subscribe to the VMSR system.

Network Message Waiting Indicator (MWI) (continued)

Translations table flow

The subsystem datafill content required for the originating office appears in the following table. The subsystem is NMS.

Datafill example for Network MWI (originating office)

Datafill table	Example data
C7LOCSSN	NMS 123 1 N N \$
C7NETSSN	S2_RTE (NMS 123) \$
C7GTTTYPE	NMSGT ANSI 12 (NMSGT) \$
C7GTT	NMSGT 0 9 PCSSN (S2_RTE NMS 80) \$ GT

The subsystem datafill content required for the terminating office appears in the following table. The subsystem is NMS.

Datafill example for Network MWI (terminating office)

Datafill table	Example data
C7LOCSSN	NMS 123 1 N N \$
C7NETSSN	S1_RTE (NMS 123) \$
C7GTTTYPE	NMSGT ANSI 21 (NMSGT) \$
C7GTT	NMSGT 0 9 PCSSN (S1_RTE NMS 70) \$ GT

Limits

The following limits apply to Network Message Waiting Indicator (MWI):

- The SMDIs in table SLLNKDEV can have option NUMOFDIGS set to ten digits. These SMDIs can convert seven-digit DNs to ten-digit DNs outside the SMDI numbering plan area (NPA). This type of SMDI can activate and deactivate the MWI of a subscriber outside the SMDI NPA. The SMDIs in table SLLNKDEV can have option NUMOFDIGS set to seven digits. These SMDIs can assign the SMDI NPA to the DN to convert seven-digit DNs to ten-digit DNs. The SMDI can activate the MWI of a subscriber inside the SMDI NPA.
- The SMDI subscribers cannot delete messages or disable the MWIs with option CRR. The SMDI agent can deactivate an MWI.

Network Message Waiting Indicator (MWI) (continued)

- Option CRDA deactivates the MWI. This option does not delete the messages queued against subscriber stations. Only the message service or SMDI agent can delete messages from the queue.
- The system does not screen security codes on the server node when a subscriber MWI is enabled. An unauthorized subscriber can activate an MWI. The system screens security codes when a subscriber MWI is not active. This action eliminates the risk of an unauthorized NMS that deactivate MWIs and delete subscriber messages.
- This feature does not direct MWT notification to a remote phone. The MWT and Network MWI features are separate.

Interactions

A description of the interactions between Network Message Waiting Indicator (MWI) and other functionalities appears in the following paragraphs.

Call Request Delete All

The CRDA disables a subscriber MWI. The CRDA does not remove messages from the queue of the subscriber. The system removes the messages when the message service or SMDI deactivates the MWI.

Message Service - List Management

A subscriber can use the message list editing (MLE) environment to identify the name and DN of a call requestor. The subscriber can perform this action before the subscriber retrieves the message. Network MWI can activate an MLE subscriber MWI. When this condition occurs, the name and DN of the message service appear when the subscriber retrieves messages.

Activation/deactivation by the end user

The VMS or SMDI initiate activation and deactivation of an end user MWI.

Billing

Network Message Waiting Indicator (MWI) does not affect billing. The system handles call request retrievals the same as when the calls are direct dial calls.

Station Message Detail Recording

Network Message Waiting Indicator (MWI) does not affect Station Message Detail Recording.

Datafilling office parameters

Network MWI introduces two office parameters. Two current parameters must change for this feature. Parameters NO_OF_SMALL_EXT_BLKs and

Network Message Waiting Indicator (MWI) (continued)

NO_OF_XLARGE_EXT_BLKs must change. The new parameters are NMS_ACKNOWLEDGMENT_TIMEOUT and DYNAMIC_MEMORY_SIZE. All four parameters are in Table OFCENG.

Datafilling office parameters on server nodes

The server node datafill for the office parameter DYNAMIC_MEMORY_SIZE appears in the following procedure.

The office parameters for Network Message Waiting Indicator (MWI) appear in the following table. Refer to *Office Parameters Reference Manual* for additional information about office parameters.

Office parameters by Network Message Waiting Indicator (MWI)

Table name	Parameter name	Explanation and action
OFCENG	DYNAMIC_MEMORY_SIZE	This parameter is used to specify the amount of memory available for several pools of memory. It has immediate activation and can be re-sized at any time. The parameter value may need to be increased as the number of Network MWI subscribers increases. Use the call processing tool manager (CPPOOLMGR) to see the current parameter value.

Datafilling office parameters on host nodes

The host node datafill for the office parameters NMS_ACKNOWLEDGMENT_TIMEOUT, NO_OF_

Network Message Waiting Indicator (MWI) (continued)

XLARGE_EXT_BLKs, and NO_OF_SMALL_EXT_BLKs appears in the following procedure.

Office parameters by Network Message Waiting Indicator (MWI) on host nodes (Sheet 1 of 5)

Table name	Parameter name	Explanation and action
OFCENG	NMS_ACKNOWLEDGEMENT_TIMEOUT	This parameter indicates the maximum amount of time, in seconds, an NMS TCAP request can wait for an acknowledgment. Beyond this time limit, the system records the NMS request timed out. Set this parameter at the host node. The host node has the message service. The number of seconds can be a value from 0 to 32767. The default is 3 s. An assignment of 0 disables the timeout mechanism. This condition makes sure the TCAP request does not timeout. Nortel does not recommend the 0 value. Use the default value of 3 s. Underestimation or overestimation of this parameter can cause problems. Raise or lower this parameter by 1. Refer to <i>Office Parameters Reference Manual</i> for the formula for this parameter. A change to this parameter takes effect immediately. A restart is not necessary. Underestimation of the value of this parameter causes too many NMS TCAP requests to time out. Overestimation of this parameter causes transaction IDs to be present for too long. This condition causes the exhaustion of the supply of transaction IDs. Note: An office can have too many NMS requests that time out. The office can exhaust the supply of transaction IDs. When these conditions occur, you must increase the value of NUMTRIDS allocated for NMS in table TCAPTRID.

Network Message Waiting Indicator (MWI) (continued)

Office parameters by Network Message Waiting Indicator (MWI) on host nodes (Sheet 2 of 5)

Table name	Parameter name	Explanation and action
	NO_OF_XLARGE_EXT_BLKs	The TCAP applications use this parameter for decoding purposes. Parameter autoprovisioning was added in TL10. A parameter increase change is immediate. For manual provisioning, set this parameter at the server node to decode NMS TCAP queries. Set this parameter at the host node to decode NMS TCAP responses to the queries. This parameter indicates the number of extra large extension blocks the NMS uses. This number ranges from 0 to 32767 blocks. The default is 16 blocks. Refer to <i>Office Parameters Reference Manual</i> for the formula for this parameter. An extra large extension block is in use when a Network MWI activation or deactivation times out. To accommodate the NMS, multiply <code>NMS_ACKNOWLEDGEMENT_TIMEOUT</code> value by the sum of all requests per second. Perform this calculation for the message desks of the office. This calculation increases this parameter. Each extra large extension block uses 200 words of storage. The calculation of number of words required is as follows: $\text{NO\_OF\_XLARGE\_EXT\_BLKS} \times 200$ Changes associated with decreases require a cold restart. Such decreases generate a message like the following: Warning: A Cold Restart is required to activate this change to ext block pool <code>BASCPS_XLARGE_EXT_BLK</code> current value = 101 future value = 100. TUPLE CHANGED.

Network Message Waiting Indicator (MWI) (continued)

Office parameters by Network Message Waiting Indicator (MWI) on host nodes (Sheet 3 of 5)

Table name	Parameter name	Explanation and action
		This parameter associates with the EXT OM group. To verify that the parameter is set and functions correctly, make sure that EXT OVFL is not 0. If EXT OVFL is 0, the parameter is too low. The EXTHI records the maximum number of extension blocks in use at the same time during a specified transfer period. Underestimation of the value of this parameter does not allow Network MWI to function correctly. Overestimation of this parameter wastes storage.

Network Message Waiting Indicator (MWI) (continued)

Office parameters by Network Message Waiting Indicator (MWI) on host nodes (Sheet 4 of 5)

Table name	Parameter name	Explanation and action
	NO_OF_SMALL_EXT_BLKs	The TCAP applications use this parameter for decoding purposes. Parameter autoprovisioning was added in TL10. A parameter increase change is immediate. For manual provisioning, set this parameter at the host node to decode NMS TCAP time-out messages. This parameter indicates the number of small extension blocks that the NMS uses when a request times out. This number ranges from a value from 0 to 32767 blocks. The default is 16. Refer to <i>Office Parameters Reference Manual</i> for the formula for this parameter. Compute the value of this parameter with the following calculation: $\text{NO\_OF\_XLARGE\_EXT\_BLKS} / 10$ Round up the result to the nearest integer. Each small extension block uses 10 words of storage. The calculation of the number of words required is as follows: $\text{NO\_OF\_SMALL\_EXT\_BLKS} \times 10$ Changes associated with decreases require a cold restart. Such decreases generate a message like the following: Warning: A cold restart is required to activate this change to ext block pool BASCPS_SMALL_EXT_BLK current value = 226 future value = 225 TUPLE CHANGED. This parameter associates with the EXT OM group. To verify that the parameter is set and functions correctly, make sure EXT OVFL is not 0. If EXT OVFL is 0, the parameter is too low. The EXTHI records the maximum number of extension blocks in use at the same time during a specified transfer period.

Network Message Waiting Indicator (MWI) (continued)

Office parameters by Network Message Waiting Indicator (MWI) on host nodes (Sheet 5 of 5)

Table name	Parameter name	Explanation and action
		Underestimation of the value of this parameter prevents the correct operation of Network MWI. Overestimation wastes storage.

Datafill sequence

The tables that require datafill to activate Network Message Waiting Indicator (MWI) appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Network Message Waiting Indicator (MWI) (Sheet 1 of 2)

Table	Purpose of table
OFCENG	Office Engineering. This table contains data on engineering parameters for the office. See "Datafilling office parameters" for how MWI affects office parameters.
TCAPTRID	Transaction Identifier. Table TCAPTRID contains tuples that indicate the number of TCAP identifiers that features require. Note: Table TCAPTRID is obsolete. See Data Schema Reference Manual for details.
C7GTTTYPE	Common Channel Signaling No. 7 Global Title Translation Type. Table C7GTTTYPE contains the mapping of the following: • an operating company-defined GTT name (GTTNAME) • the network type (NETWK) • a network-defined GTT type number (GTTNUM) • a predefined GTT identifier (GTTID) This table does not allow a deletion from the table if the key entry is in table INTCCFMT for field GTTNAME.
C7GTT	Common Channel Signaling No. 7 Global Title Translation. Table C7GTT contains the mapping of a GTT, of a specified translation type, to a CCS7 network address. The SCCP and message transfer part (MTP) use this address to route messages to destinations.
C7NETSSN	Common Channel Signaling No. 7 Network Subsystem Routing. Table C7NETSSN contains the set of remote PCs and subsystems where the SCCP routes messages. The subsystems are at the remote PCs.

Network Message Waiting Indicator (MWI) (continued)

Datafill requirements for Network Message Waiting Indicator (MWI) (Sheet 2 of 2)

Table	Purpose of table
C7LOCSSN	Common Channel Signaling No. 7 Local Subsystem. Table C7LOCSSN contains information for the local subsystem. This table includes the following: • traffic mix information (TRMI) requirement • replication information • an adjacent intermediate node translator list (ADFTRANSNODES) • a concerned node list (PCNAMES)
C7RPLSSN	Common Channel Signaling No. 7 Replicate Subsystem. Table C7RPLSSN contains the set of remote subsystem replicate pairs. This table has a one part key, the subsystem name. For each subsystem, you must specify a list of PC pairs where the replicated subsystems reside.
C7RSSCRN	Common Channel Signaling No. 7 Remote Subsystem Concerned Node. Table C7RSSCRN contains a list of concerned nodes for a remote subsystem point code group. This table has a two-part key. The first part is the PC. The second part is the subsystem name. Enter the PC and subsystem group in table C7NETSSN.

Datafilling table TCAPTRID

Datafill for Network Message Waiting Indicator (MWI) for table TCAPTRID appears in the following table. The fields that apply to Network Message Waiting Indicator (MWI) appear in this table. See the data schema section of this document for a description of the other fields.

Note: Table TCAPTRID is obsolete. See Data Schema Reference Manual for details.

Network Message Waiting Indicator (MWI) (continued)

Datafilling table TCAPTRID

Field	Subfield or refinement	Entry	Explanation and action
TCAPAPPL		TCAP Application	TCAP Application. This field specifies the name of the TCAP application that requires transaction IDs, like NMS or Interwrk.
NUMTRIDS		0 to 32767	Number Of Transaction IDS. This field specifies the number of transaction IDs available for an office. The NUMTRIDS can be any value from 0 to 32767. This value must not be less than the maximum number of concurrent Network MWI transactions that can be active in an office. Calculate NUMTRIDS as follows: $(\text{number of message service data links}) \times (\text{number of requests handled by data link per second})$ The NUMTRIDS must be less than the maximum of TCAP messages. Each transaction ID uses 40 words of datastore. The system holds this datastore for the duration of the transaction.

Datafilling table C7GTTYPE

Datafill for Network Message Waiting Indicator (MWI) for table C7GTTYPE appears in the following table. The fields that apply to Network Message Waiting Indicator (MWI) appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table C7GTTYPE (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
GTTNAME		NMSGT	GTT Name. This field specifies the GTT name that Network MWI uses. Enter NMSGT.
GTTYPE		see subfields	GTT Type. This field contains subfields NETWK and GTTNUM. Descriptions of these subfields follow.

Network Message Waiting Indicator (MWI) (continued)

Datafilling table C7GTTYPE (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
GTTID	NETWK	ANSI	Network. This subfield specifies the type of network. Enter ANSI.
	GTTNUM	0 to 255	GTT Number. This subfield specifies the numerical value that the network defines for the specified translation name. Assignment of translation types for internetwork services occurs in ascending order, starting with 0. Assignment of translation types for services that the network specifies occurs in descending order, starting with 255. Enter the GTT number (a value from 0 to 255). Note: When the SEASAPPL package is present, the system does not allow changes to the entry in subfield GTTNUM.
		NMSGT	GTT ID. This field specifies the GTT identifier that Network MWI uses. Enter NMSGT.

Datafill example for table C7GTTYPE

Sample datafill for table C7GTTYPE appears in the following example.

MAP example for table C7GTTYPE

GTTNAME	GTTTYPE	GTTID
NMSGT	ANSI	252 (NMSGT) \$

Datafilling table C7GTT

Datafill for Network Message Waiting Indicator (MWI) for table C7GTT appears in the following table. The fields that apply to Network Message

Network Message Waiting Indicator (MWI) (continued)

Waiting Indicator (MWI) appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table C7GTT

Field	Subfield or refinement	Entry	Explanation and action
GTTKEY		see subfields	GTT Key. This field contains the subfields GTTNAME, FROMDIG, and TODIG. Descriptions of these subfields follow.
	GTTNAME	NMSGT	GTT Name. This subfield specifies the GTT name. Enter NMSGT.
	FROMDIG	0-9, B, C, D, E, F, or N	FROM DIGITS. This subfield specifies the lower bound of the range for which the translations results apply. Enter a string of a maximum of 18 of the following characters: 0-9, B, C, D, E, F, and N.
	TODIG	0-9, B, C, D, E, F, or N	TO DIGITS. This subfield specifies the upper bound of the range for which the translations results apply. Enter a string of a maximum of 18 of the following characters: 0-9, B, C, D, E, F, and N.
GTTRSLT		see subfields	GTT Result. This field contains the subfields RESULT, PCNAME, SSNAME, and COST. A description of these subfields follows.
	RESULT	PCSSN	RESULT. This subfield specifies the format of the results. Enter PCSSN. Note: If RESULT is PCSSN, the system prompts for subfields PCNAME, SSNAME, and COST.
	PCNAME	1 to 16 character name	POINT CODE NAME. This subfield specifies the point code name. Enter a 1 to 16 character name.
	SSNAME	Subsystem name	Specifies one of the subsystem names that are predefined or that the user defined. These names have from one to eight characters and include the names NMS or Interwrk.
	COST	0 to 99	COST. This subfield specifies a routing preference when the cost for different routes is the same. Enter a value from 0 to 99.

Network Message Waiting Indicator (MWI) (continued)

Datafill example for table C7GTT

Sample datafill for table C7GTT appears in the following example.

MAP example for table C7GTT

GTTKEY			GTTRSLT		
NMSGT	0	9	PCSSN (S2_RTE NMS 80)	\$	GT

Datafilling table C7NETSSN

Datafill for Network Message Waiting Indicator (MWI) for table C7NETSSN appears in the following table. The fields that apply to Network Message Waiting Indicator (MWI) appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table C7NETSSN

Field	Subfield or refinement	Entry	Explanation and action
PCNAME		point code name	Point Code Name. Specifies the point code name in the CCS7 network. Enter the point code name.
SSNAMES		see subfields	Subsystem Names. This field contains the subfields SSNAME and SSNUMBER. A description of these subfields follows.
	SSNAME	Subsystem name	Specifies one of the subsystem names that are predefined or that the user defined. These names have from one to eight characters and include the names NMS or Interwrk.
	SSNUMBER	2 to 254	Subsystem Number. Specifies the subsystem number at this point code. This number must be different in table C7LOCSSN. Enter a value from 2 to 254.

Datafill example for table C7NETSSN

Sample datafill for table C7NETSSN appears in the following example.

Network Message Waiting Indicator (MWI) (continued)

MAP example for table C7NETSSN

PCNAME	SSNAMES
S2_RTE	(NMS 123) \$

Datafilling table C7LOCSSN

Datafill for Network Message Waiting Indicator (MWI) for table C7LOCSSN appears in the following table. The fields that apply to Network Message Waiting Indicator (MWI) appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table C7LOCSSN

Field	Subfield or refinement	Entry	Explanation and action
SSNAME		Subsystem name	Specifies one of the subsystem names that are predefined or that the user defines. These names have from one to eight characters and include the names NMS or Interwrk.

Datafill example for table C7LOCSSN

Sample datafill for table C7LOCSSN appears in the following example.

MAP example for table C7LOCSSN

SSNAME	SSNUMBER	MININST	REPLINFO	TFMI	PCNAMES
NMS	123	1	N	N	\$

Datafilling table C7RPLSSN

Datafill for Network Message Waiting Indicator (MWI) for table C7RPLSSN appears in the following table. The fields that apply to Network Message

Network Message Waiting Indicator (MWI) (continued)

Waiting Indicator (MWI) appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table C7RPLSSN

Field	Subfield or refinement	Entry	Explanation and action
SSNAME		Subsystem name	Specifies one of the subsystem names that are predefined or that the user defined. These names have from one to eight characters and include names like NMS or Interwrk.

Datafill example for table C7RPLSSN

Sample datafill for table C7RPLSSN appears in the following example.

MAP example for table C7RPLSSN

SSNAME	REPLIST
NMS	(ROUTESET1 ROUTESET2 N) \$

Datafilling table C7RSSCRN

Datafill for Network Message Waiting Indicator (MWI) for table C7RSSCRN appears in the following table. The fields that apply to Network Message Waiting Indicator (MWI) appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table C7RSSCRN

Field	Subfield or refinement	Entry	Explanation and action
PCSSN		see subfields	Point Code And Subsystem Name. This field contains the subfields PCNAME and SSNAME. A description of these subfields follows.
	PCNAME	point code name	Point Code Name. Specifies the CLLI of the remote point code to which the concerned node list applies.
	SSNAME	Subsystem name	Specifies one of the subsystem names that are predefined or that the user defined. These names have from one to eight characters and include the names NMS or Interwrk.

Network Message Waiting Indicator (MWI) (end)

Datafill example for table C7RSSCRN

Sample datafill for table C7RSSCRN appears in the following example.

MAP example for table C7RSSCRN

PCSSN	PCNAMES
ROUTESET1 NMS	(ROUTESET2) \$

Tools for verifying translations

Network Message Waiting Indicator (MWI) does not use tools for verifying translations.

SERVORD

Network Message Waiting Indicator (MWI) does not use SERVORD.

Network Name Display

Ordering codes

Functional group ordering code: MDC00006

Functionality ordering code: does not apply

Release applicability

BCS26 and later versions

Requirements

To operate, Network Name Display has the following requirements:

- BAS Generic, BAS00003
- MDC MBS Minimum, MDC00007
- SS7 Trunk Signaling, SS700001
- MDC MBG Standard, MDC00000
- MDC Standard, MDC00003

Description

Network Name Display allows a Meridian business set (MBS) with display to indicate the name of the calling or called party for direct calls. The name appears in addition to the directory number (DN). For redirected calls, Network Name Display displays the name of the party from which or to which the system redirects the call. This feature also displays reason information for redirected calls. Earlier, these capabilities were available only for a single node. Network Name Display extends this capability to end users of multiple nodes linked by a common channel signaling 7 (CCS7) network. This feature sends name and DN information across the network.

Operation

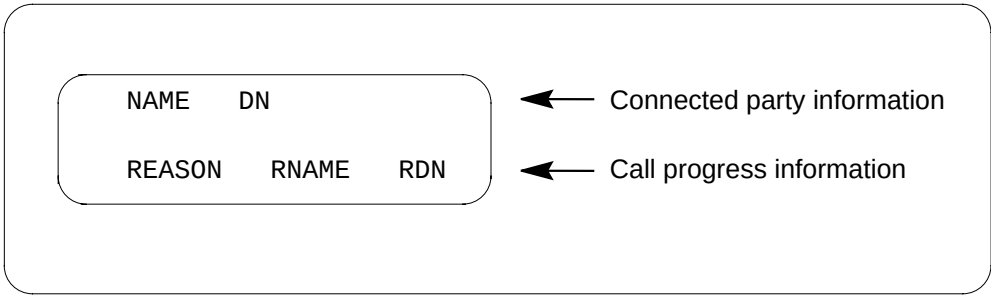
Network Name Display is available for the M5209 and M5312 MBSs, and the SL-100 business set (NT4X20). These MBSs have two-line by 24-character displays. The SL-100 business set has a two-line by 16-character display.

Assign Network Name Display for each customer group in table CUSTSTN (Customer Group Station Option). Use option NAME in the Service Order System (SERVORD) to associate names with separate DNs. Table DNATTRS (Directory Number Attributes) stores these names. Calls involved with a DN do not always provide a name for display. This condition occurs when you do not assign a name to a specified DN.

Network Name Display (continued)

The top line displays the name and DN of the called or calling party. If the name and DN do not fit on the top line, only the name appears on the display. Reason information and the redirected name and DN appear on the bottom line of the display. If all the information does not fit, only the reason information appears on the display. The basic display when name display, DN display, and reason display are active appears in the following figure.

Basic display format



Network Name Display uses parameters in the CCS7 protocol to define name information. This information must communicate between end offices. This feature also specifies the method to convey the information across the network.

The name of the first method is SETUP. In the SETUP method, the message includes the calling party name. The name of the second method is QUERY. In the QUERY method, the message includes an indicator of the availability of the calling party name. In these methods, the message includes a request for the connected party name information if required. The use of SETUP or QUERY determines how to handle the call at the terminating office.

For the QUERY method, an additional step sends the request for the name information while the call proceeds. The BCS26 release does not support the SETUP method. Only this release can use the QUERY method.

Translations table flow

The Network Name Display translations process appears in the following flowchart and data. The translation flow to assign Network Name Display to an MBS or SL-100 business set for specified calls appears in the example. These calls are inside or outside the network.

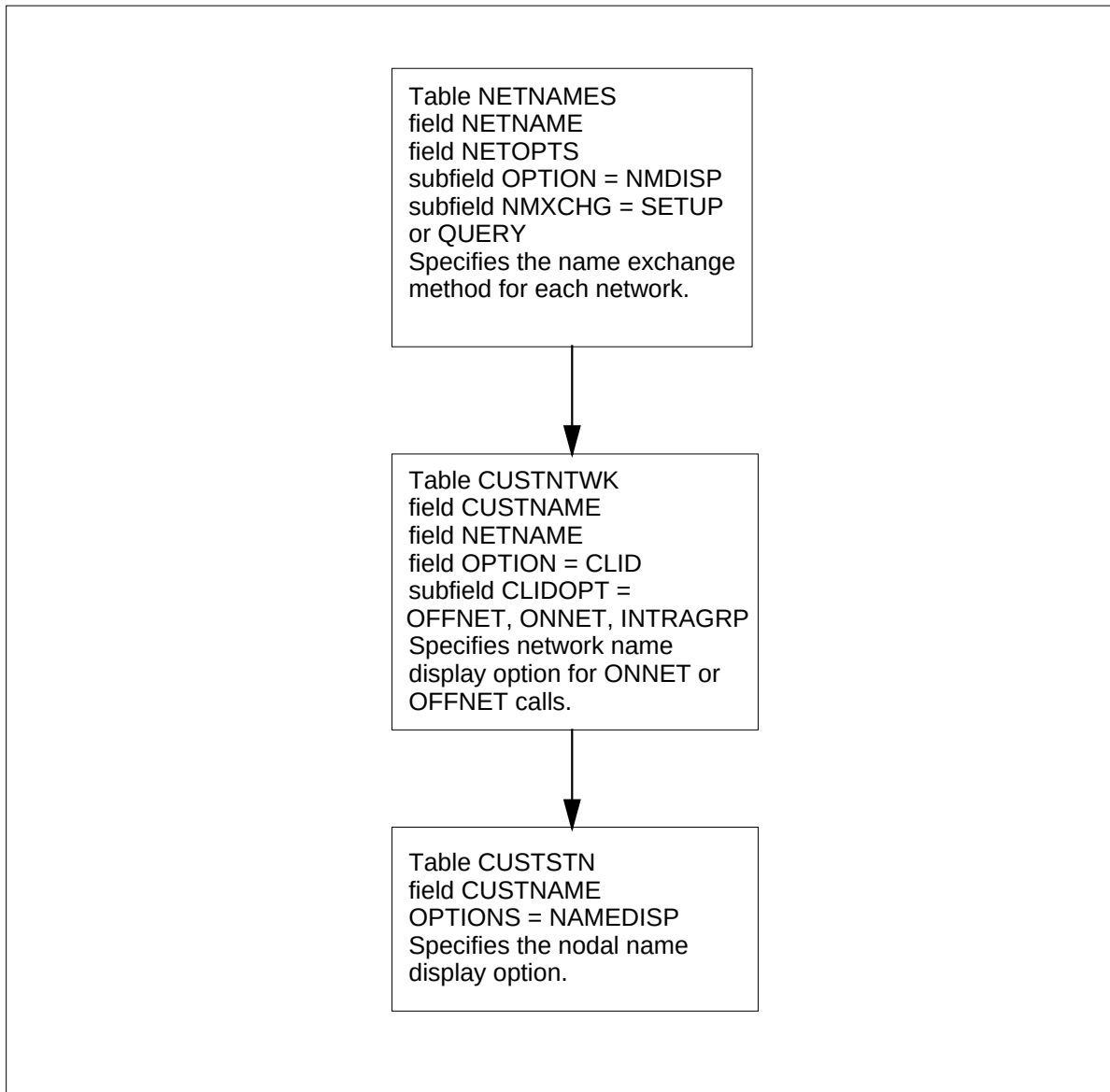
Table NETNAMES (Internal Logical Network Names) specifies if a network supports Network Name Display. This table specifies the method of information exchange. Option NMDSP in table NETNAMES specifies if a network supports Network Name Display. Option NMDSP specifies the method for network name exchange (NMXCHG).

Network Name Display (continued)

Table CUSTSTN (Customer Group Station Option) contains the station options assigned to each customer group. You must assign option NAMEDISP to the customer group to display DN and name information.

The Network Name Display translation process appears in the following flowchart.

Table flow for Network Name Display



Network Name Display (continued)

The datafill content for the flowchart appears in the following table.

Datafill example for Network Name Display

Datafill table	Example data
NETNAMES	PUBLIC 0 1 (NMDSP SETUP) \$
CUSTNTWK	MDCGRP1 PUBLIC 1 (PUBLIC NRXL 8) (CLID ONNET) \$
CUSTSTN	MDCGRP1 NAMEDIS NAMEDISP
DNATTRS	919 848 0050 PUBLIC NAME C_DNALGAR \$

Limits

The following limits apply to Network Name Display:

- Network Name Display is available only to M5209 and M5213 MBSs with display and on SL-100 business sets with display.
- You must assign option CLID in table CUSTNTWK to have the network display a name for specified calls. These calls originate in the same network and on all network calls. The original location of these calls do not affect the name display. See "Network Dial Plan Display" for additional information.
- You must assign option NAMEDISP in table CUSTSTN to the customer group to allow the display of name information. The name information displays across the network.
- The BCS26 release does not support a specified name exchange method. This method appends the name of the calling party in the setup message (SETUP) in table NETNAMES.
- If you do not enter a name to correspond to the DN, only the DN appears on the display.
- The maximum length of the name to display is 15 characters.

Interactions

Network Name Display interacts with other MBS display features. This feature affects integrated services digital network user part (ISUP) call processing. With Network Name Display, the network call access is transparent to the end user. Network Name Display provides display information like nodal call access.

Network Name Display (continued)

The following features interact with Network Name Display:

- *Call Forwarding.* The system can send additional messages between the end offices to provide the name information. This condition can occur when the Call Forwarding (CFW) base station is at the originating office. The system cannot always send the names of the connecting party and the redirecting party to the calling party. This condition occurs when the CFW base station is at the terminating office. If modification of the call configuration occurs after the call setup phase, the exchange of the protocol control parameters does not occur. The exchange does not occur because the limit of the protocol does not allow the exchange. The system does not always transmit the name of the connected party at the far end across the network.
- *Call Transfer.* For Call Transfer (CXR), the MBS of each of the remaining two parties can display the name of the connected party. This condition occurs if a party is at the same office as the controller. If the controller is at an intermediate office, only the DN of the two parties appears on the display. Only ISUP integrated business network (IBN) trunks fully support the display capability.

Descriptions of the actions between Network Name Display and other functionalities appear in the following paragraphs.

Activation/deactivation by the end user

Network Name Display does not require activation or deactivation by the end user.

Billing

Network Name Display does not affect billing.

Station Message Detail Recording

Network Name Display does not affect Station Message Detail Recording.

Datafilling office parameters

Network Name Display does not affect office parameters.

Network Name Display (continued)

Datafill sequence

The tables that require datafill to implement Network Name Display appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Network Name Display

Table	Form
NETNAMES	2314A,B
CUSTNTWK	2308A,B
CUSTSTN	2238A,B
DNATTRS (Note)	2316A,B
Note: You must enter data for this table through SERVORD. A datafill procedure is not available.	

Datafilling table NETNAMES

Table NETNAMES (Internal Logical Network Names) specifies if a network supports Network Name Display. This table specifies the method of information exchange.

The datafill for table NETNAMES for this feature appears in the following procedure. The fields that apply to this feature appear in this table. See the data schema section for additional information.

The datafill for Network Name Display for table NETNAMES appears in the following table. The fields that apply to Network Name Display appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table NETNAMES (Sheet 1 of 2)

Field	Subfield or refinement	Explanation and action
NETOPTS		Network Options This field contains subfield OPTION.
If OPTION is NMDSP, subfield NMXCHG requires datafill.		

Network Name Display (continued)

Datafilling table NETNAMES (Sheet 2 of 2)

Field	Subfield or refinement	Explanation and action
	OPTION	Network Option This subfield specifies the name of the network option. Enter NMDSP.
	NMXCHG	Name Exchange Method This subfield specifies the name exchange method. Enter SETUP to indicate the name exchange method that appends the name of the calling party in the setup message. Enter QUERY to indicate the name exchange method that sends the name of the connected party. The system sends the name of the connected party when the system receives a request. Note: For central offices with BCS26, the only correct entry for subfield NMXCHG is QUERY.
If OPTION is NMDSP, subfield NMXCHG requires datafill.		

Datafill example for table NETNAMES

Sample datafill for table NETNAMES appears in the following example.

MAP example for table NETNAMES

TABLE : NETNAMES

NETNAME	EXTNETID	NETDIGS	NETOPTS
PUBLIC	0	1	(NMDSP SETUP)\$

Datafilling table CUSTNTWK

Table CUSTNTWK (Customer Group Network) specifies network information for each customer group. This information includes the calling line information display and reverse translations information for a customer group. Option CLID in table CUSTNTWK assigns calling line identification to a customer group. Assign option CLID to display the network name for:

- calls originating in the same network (ONNET) as the called party
- all network calls, origin (OFFNET) not important
- calls to the terminating agents in the same customer group as the originating agent (INTRAGRP)

Network Name Display (continued)

The datafill for Table CUSTNTWK for this feature appears in the following table. The fields that apply to this feature appear in this table. See the data schema section for details on all fields in this table.

Datafilling table CUSTNTWK (Sheet 1 of 2)

Field	Subfield	Explanation and action
DNREVLXA		DN Reverse Translators This field contains subfields NETNAME, RXLANAME, and NUMDIGS. Network Name
	NETNAME	This subfield specifies the 1- to 32-character alphanumeric name of the network with the reverse translator. Enter the network name. For the DMS-300 switch, leave this field blank.
	CLIDOPT	CLID Option. This subfield specifies the type of calls for which calling line information display is active. Enter one of the following values: Enter ONNET to indicate that the CLID option is active on specified calls. These calls originate in the same network as the called party. Enter OFFNET to indicate that the CLID option is active on all networked calls. The originated location the the calls does not affect the activation of this option. Enter INTRAGRP to indicate that CLID is available only to specified terminating agents. These terminating agents are in the same customer group as the originating agent. In table OFCENG (Engineered Office), tuple KSET_INTER_GRP_DISP overrides the entry for subfield CLIDOPT. For displays to work according to datafill in subfield CLIDOPT, the table OFCENG tuple KSET_INTER_GRP_DISP must be N.
If OPTIONS is CLID, subfield CLIDOPT requires datafill.		

Network Name Display (continued)**Datafilling table CUSTNTWK (Sheet 2 of 2)**

Field	Subfield	Explanation and action
	RXLNAME	Reverse Translator Name This subfield specifies the 1- to 8-character alphanumeric name of the reverse translator associated with the network in subfield NETNAME. Enter the reverse translator name. For the DMS-300 switch, leave this field blank.
	NUMDIGS	Number of Digits This subfield specifies the number of digits to be in use during the reverse translation process. The applications using the reverse translator identified in subfield RXLNAME use this process. Enter a value from 1 to 10. For the DMS-300 switch, leave this field blank. Options This field contains several options. For this feature, enter CLID to assign the calling line identification option to a customer group.
If OPTIONS is CLID, subfield CLIDOPT requires datafill.		

Sample datafill for table CUSTNTWK appears in the following example. In this example, option CLID associates with ONNET. This association specifies the type of calls for which calling line information display is active.

MAP example for table CUSTNTWK

TABLE : CUSTNTWK

CUSTNAME	NETNAME	NETCGID	DNREVXLA	OPTIONS

MDCGRP1	PUBLIC	1	(PUBLIC NRXLA 8)	(CLID ONNET)

Datafilling table CUSTNTWK

Table CUSTSTN (Customer Group Station Option) contains the station options assigned to each customer group. Assign option NAMEDISP to the customer group to display DN and name information.

Network Name Display (continued)

The datafill for table CUSTSTN for this feature appears in the following table. The fields that apply to this feature appear in this table. See the data schema section of this document for additional information.

Datafilling table CUSTSTN

Field	Subfield	Explanation and action
OPNAME		Option Name This field specifies the option name. Enter NAMEDISP.
OPTION		Option This field specifies the option. Enter NAMEDISP.

Sample datafill for Table CUSTSTN with option NAMEDISP assigned appears in the following example.

MAP example for table CUSTNTWK

TABLE: CUSTSTN		
CUSTNAME	OPTNAME	OPTION
MDCGRP1	NAMEDISP	NAMEDISP

Tools for verifying translations

Network Name Display does not use tools for verifying translations.

SERVORD

Use the SERVORD command ADO (add option) to associate display names with a DN or a line equipment number (LEN). When you select option NAME, the DMS switch prompts for DISPLAYNAME to indicate the name that appears on the MBS display.

The SERVORD prompts to assign Network Name Display to an MBS appears in the following table.

SERVORD limits

Network Name Display does not have SERVORD limits.

Network Name Display (continued)

SERVORD prompts

The SERVORD prompts to change Network Name Display to a line appear in the following table.

SERVORD prompts for Network Name Display

Prompt	Correct input	Explanation
DN_OR_LEN	7-digit DN or LEN	Specifies the 7-digit DN or LEN of the line that must change. Enter the DN or LEN.
DISPLAYNAME	1- to 15- character name	Indicates the name to appear on an MBS display. Enter a 1- to 15-character name.
NETNAME	PUBLIC	Indicates the network name that appears as a DN attribute. Enter PUBLIC.
OPTKEY	1 to 69	Indicates the key on an MBS to which you assign an option. Enter a value from 1 to 69.
OPTION	NAME	Indicates the name of the option. Enter NAME.
Note: The system enters data in table DNATTRS when you assign NAME through SERVORD.		

SERVORD example for adding Network Name Display

The procedure to add Network Name Display to the directory number using the ADO command appears in the following SERVORD example.

Network Name Display (end)

SERVORD example for Network Name Display in prompt mode

```
Prompt mode
S0:
>ADO
SONUMBER: NOW 92 10 01 PM
>
DN_OR_LEN:
>5554725
OPTKEY:
>1
OPTION:
>NAME
NETNAME:
> PUBLIC
DISPLAYNAME:
> J_SMITH
NETNAME:
>$
OPTKEY:
>$
```

SERVORD example for Network Name Display in no-prompt mode

```
>ADO $ 5554725 1 NAME PUBLIC J_SMITH $ $
```

Network Name Display for Attendant Consoles

Ordering codes

Functional group ordering code: MDC00006

Functionality ordering code: does not apply

Release applicability

BCS28 and later versions

Requirements

To operate, Network Name Display for Attendant Consoles has the following requirements:

- BAS Generic, BAS00003
- MDC MBS Minimum, MDC00007
- SS7 Trunk Signaling, SS700001
- MDC Minimum, MDC00003

Description

Network Name Display for Attendant Consoles provides calling and called name display for the attendant console (AC). When the attendant answers an incoming call or reaccesses a held call, the console can display the calling party name. When the attendant extends or originates a call, the console can display the called party name. The attendant presses the Name (NAME) key on the console to view the names. Names appear on the 16-character display of the console.

Network Name Display for Attendant Consoles works for calls in a single switching node (nodal calls). Network Name Display for Attendant Consoles works for calls that use a CCS7 network (network calls). Network calls use ISUP (ISDN user part) trunks.

Operation

Network Name Display for Attendant Consoles introduces the NAME key. A pressed NAME key on an AC provides the following. The NAME key provides the name of the source party and the destination party of the call on the active loop. If applicable, the name of the redirecting party appears. The redirecting party is a party that redirects the call to the attendant. An example of this party is a station that has call forwarded to the AC.

The NAME key has a lamp. The lamp turns on when there is name information to display. The lamp remains off if there is no name information to display. When the NAME lamp is on, the attendant can press the NAME key. This

Network Name Display for Attendant Consoles (continued)

action allows the attendant to view the name information for the call. If the attendant presses the NAME key when the NAME lamp is off, the following display appears. A message appears that indicates names are unavailable. The default message is NO NAME INFO.

Name display format

Name display format differentiates between the parties in a call. An S precedes the name of the source party. A D precedes the destination party on the display. The redirecting party does not have a preceding letter. The general format for name display appears in the following figure.

Network Name Display general format

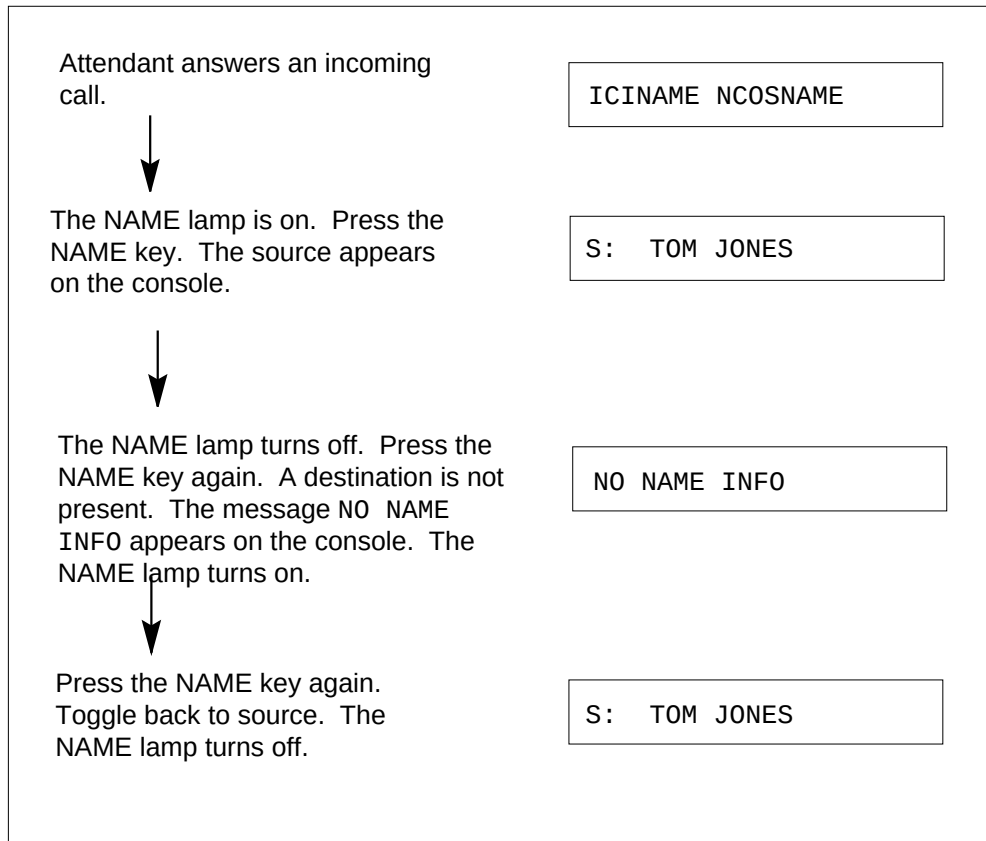
Source party	S: NAME
Destination party	D: NAME
Redirecting party	NAME

One or two names can be available for display. This availability depends on the type of call and the number of parties that the call involves. The attendant can press the NAME key repeatedly to view the name of each party. The attendant can press the NAME key to switch back and forth between names.

Note: Use the NAME key either in conjunction with or independently of the Display Control (DSPC) key. The DSPC key displays other information about a call. Display information includes the incoming call identification (ICI) name, the NCOS name, and the directory numbers (DN) of the call parties.

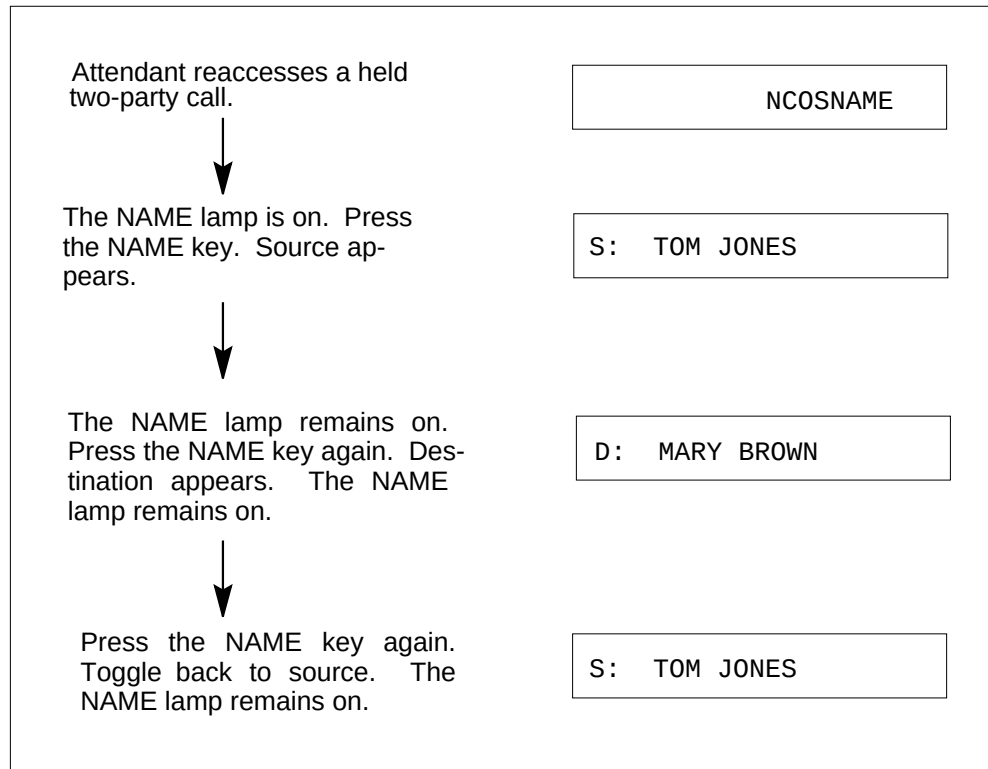
The attendant can use the NAME key to display information about a call. The method in which the attendant uses this key appears in the following three figures.

Network Name Display for Attendant Consoles (continued)

Example 1

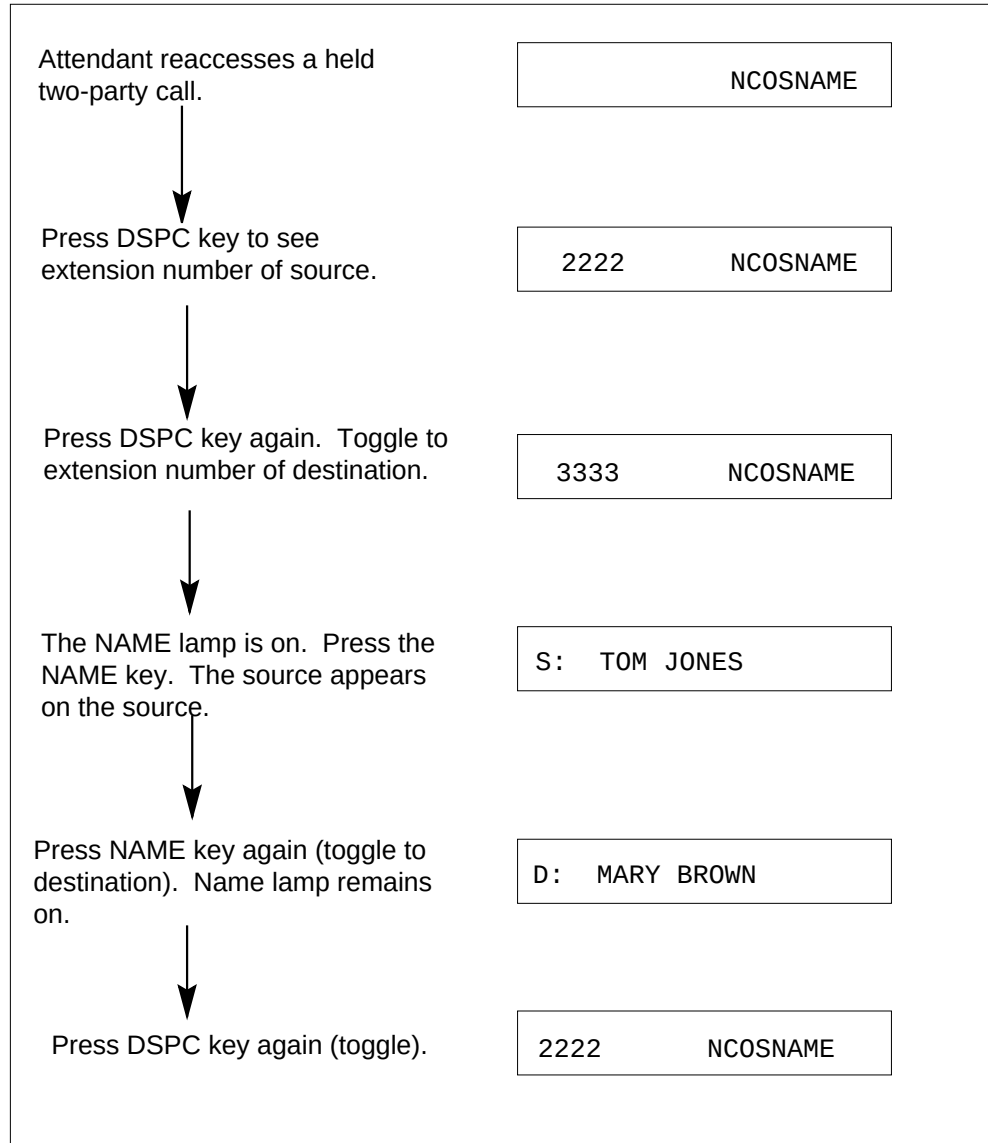
Network Name Display for Attendant Consoles (continued)

Example 2



Network Name Display for Attendant Consoles (continued)

Example 3



Tables DNATTRS (Directory Number Attributes) and DNGRPS (Directory Number Groups) store names for normal DNs and for multiple appearance directory number (MADN) groups. Table MDNMEM (Multiple Appearance Directory Number Member) stores each MADN member name. Names in these tables can be a maximum of 15 characters long. Source and destination names only appear if the names are a maximum of 14 characters for Network Name Display for Attendant Consoles. This limit applies because the console has a 16-character display and the prefixes S: and D: have two characters. If a name is too long for display, the message NO NAME INFO appears after the

Network Name Display for Attendant Consoles (continued)

S: or D:. A full 15-character name for redirecting names can appear on the console.

Changes to the flexible display language feature

Table ACMSG (Attendant Console Messages) stores AC display messages. Network Name Display for Attendant Consoles adds the message NO NAME INFO to Table ACMSG to indicate that a name is not available for display. This message is message number 70 in Table ACMSG. This message belongs to the English message set. The system creates the English message set in Table ACMSG. Datafill is not a requirement to use the English message set.

You can require languages other than English for the display. In this event, you can use the Flexible Display Language feature (BR0455) in feature package NTX175AA to change messages. Table ACLANG (Attendant Console Display Language) defines new languages. You can add a new language to Table ACLANG. When you perform this action, the system adds a copy of the English message set to Table ACMSG for the new language. You can change the messages in the new language set to a different character string for the new language.

Table ACMSG stores prefixes S: and D:. You can use the Flexible Display Language feature to define prefixes for a new language. The prefix S: is prefix number 1 in Table ACMSG. The prefix D: is prefix number 2 in Table ACMSG.

Nodal name display examples

Examples of the name displays for different types of calls appear in the following section. A description of the types of calls appear in the following list:

- incoming calls to the AC
- outgoing calls from the AC
- extended calls by the AC
- recalls to the AC
- on-hold calls that the AC reaccesses
- release source and release destination calls

The parties in the call use the following notation:

- A - IBN line or business set line with NAME JOHN_BROWN assigned
- B - IBN line or business set line with NAME BIG_BOSS assigned
- C - IBN line or business set line with NAME SECRETARY assigned

Network Name Display for Attendant Consoles (continued)

- D - IBN line or business set line with NAME HENRY_PACHULSKI (15 characters) assigned
- E - IBN line or business set line with no name assigned
- P - POTS line
- AC - AC with NAME key

The preceding integrated business network (IBN) lines are in the same customer group or customer group family. The system treats lines outside the AC customer group family as POTS lines.

The state of the NAME lamp during each call appears in these examples. The display that occurs when the attendant presses the NAME key one time and presses the NAME key again also appear.

Incoming calls to attendant console

In a dial 0 call - A (John Brown) dials 0 to reach the AC. The AC answers. The NAME lamp is on. When the attendant presses the NAME key the first time, the source (John Brown) appears. The NAME lamp turns off. When the attendant presses the NAME key a second time, **NO NAME INFO** appears. This message appears because the call does not involve a destination.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: JOHN BROWN	OFF	NO NAME INFO

In this example, D (Henry Pachulski) dials 0. The AC answers. The name Henry_Pachulski is 15 characters. The console cannot display the name as the source. The console displays **S: NO NAME INFO**.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: NO NAME INFO	OFF	NO NAME INFO

In this example, E (no name assigned) dials 0. The AC answers. The E is the source party. There is no destination party.

Lamp	Press NAME Key	Lamp	Press NAME Key
OFF	S: NO NAME INFO	OFF	NO NAME INFO

Network Name Display for Attendant Consoles (continued)

In example call forwarding to the AC - B (Big Boss) has call forwarding activated to the AC. Party A (John Brown) calls party B (Big Boss) and the system forwards A to the AC. The AC answers. John Brown is the source and Big Boss is the redirecting party.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: JOHN BROWN	ON	BIG BOSS

In example message center indirect call - B (Big Boss) has call forward don't answer to the message center. Party A (John Brown) calls party B and the system forwards to the message center. The attendant answers.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: JOHN BROWN	ON	BIG BOSS

In example message center direct - A (John Brown) dials the message center DN (MCDN) to call the message center. The attendant answers.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: JOHN BROWN	ON	BIG BOSS

The MADN line to AC - A MADN member calls the attendant. The member name is MEMBER 1. The MADN group name is SALES DEPT. The attendant answers.

If you enter option MEMDISP for the MADN group DN, the following appears on the console.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: MEMBER 1	OFF	NO NAME INFO

Network Name Display for Attendant Consoles (continued)

If you do not enter option MEMDISP, the following appears on the console.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: SALES DEPT	OFF	NO NAME INFO

Outgoing calls from the attendant console

In example AC to B (Big Boss), call completion is successful. If the B (Big Boss) answers or does not answer, the following name display appears.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: BIG BOSS	OFF	NO NAME INFO

If you press the DSPC key, the DN that belongs to B appears.

If you press the DSPC key, BSY NO CAMPON appears.

In example AC to E (no name assigned), the following display appears. This condition does not depend on if E answers the call.

Lamp	Press NAME Key	Lamp	Press NAME Key
OFF	S: NO NAME INFO	OFF	NO NAME INFO

In example AC to D (Henry Pachulski), the source name cannot appear because the name is greater than 14 characters. This condition does not depend on if D answers the call.

Lamp	Press NAME Key	Lamp	Press NAME Key
OFF	S: NO NAME INFO	OFF	NO NAME INFO

Network Name Display for Attendant Consoles (continued)

In example AC to B (Big Boss), the system forwards the call to C. The attendant calls Big Boss. The system forwards the attendant to the Secretary. The Secretary is the source. Big Boss is the redirecting party.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: SECRETARY	ON	BIG BOSS

In example AC to D (Henry Pachulski), the system forwards the call to E. A name is not assigned. The attendant calls Henry Pachulski. The system forwards the call to E. The source party, E, does not have an assigned name. The name Henry_Pachulski cannot appear because the name is greater than 14 characters.

Lamp	Press NAME Key	Lamp	Press NAME Key
OFF	S: NO NAME INFO	OFF	NO NAME INFO

In example AC to MADN line, the call is not answered. The MADN group name is SALES DEPT. The following display appears.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: SALES DEPT	OFF	NO NAME INFO

When an MADN member answers the call and you enter option MEMDISP for the MADN group DN, the following display appears. The MADN member must have MADN member name MEMBER.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: MEMBER 1	OFF	NO NAME INFO

Extended calls by the attendant console

Party A (John Brown) calls the AC. The attendant answers. The attendant can display the caller name. John asks the attendant to connect the call to another party. The following descriptions relate to extended calls.

Network Name Display for Attendant Consoles (continued)

The AC extends the call to B (Big Boss). The following name display appears. This process does not depend on if B answers.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	D: BIG BOSS	ON	S: JOHN BROWN

The AC extends the call to E (no name assigned). The appearance of the following display does not depend on if E answers.

Lamp	Press NAME Key	Lamp	Press NAME Key
OFF	D: NO NAME INFO	ON	S: JOHN BROWN

The AC extends the call to B (Big Boss). Big Boss has call forwarding to C (Secretary). The appearance of the following display does not depend on if C answers.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	D: SECRETARY	ON	S: JOHN BROWN

The AC extends the call to B (Big Boss). The telephone is busy. The AC receives BSY NO CAMPON treatment.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	D: BIG BOSS	ON	S: JOHN BROWN

The AC extends the call to an invalid DN. The AC receives reorder treatment.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: JOHN BROWN	OFF	NO NAME INFO

Network Name Display for Attendant Consoles (continued)

Recalls to the attendant console

Calls that are not answered that the attendant extends can return to the attendant after a specified time period. If the waiting party decides to not wait, the waiting party can flash to recall to the attendant.

The following are the types of AC recalls:

- no answer
- camp-on
- call waiting
- call park
- held call auto
- held call SOURCE/DEST
- three-way call
- conference
- No answer recall - A (John Brown) calls the AC. The attendant answers.
- AC extends the call to B (Big Boss) and releases. Party B does not answer. On no answer recall time-out (CWNATIM) in Table CUSTCONS (Customer Group Attendant Console Option), the system routes the call back to the AC. The attendant answers.

Lamp	Press NAME Key	Lamp	Press NAME Key
OFF	S: NO NAME INFO	OFF	NO NAME INFO

In example AC to MADN line, a party does not answer the call. The MADN group name is SALES DEPT. The following display appears.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: SALES DEPT	OFF	NO NAME INFO

Network Name Display for Attendant Consoles (continued)

When an MADN member answers the call and you enter option MEMDISP for the MADN group DN, the following display appears. The MADN member name is MEMBER 1.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: MEMBER 1	OFF	NO NAME INFO

Extended calls by the attendant console

Party A (John Brown) calls the AC. The attendant answers. At this point, the attendant can display the name. John asks the attendant for a connection to another party. Consider the following descriptions.

The AC extends the call to B (Big Boss). The appearance of the following name display does not depend on if B answers.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	D: BIG BOSS	ON	S: JOHN BROWN

The AC extends the call to E (no name assigned). The appearance of the following display does not depend on if E answers.

Lamp	Press NAME Key	Lamp	Press NAME Key
OFF	D: NO NAME INFO	ON	S: JOHN BROWN

The AC extends the call to B (Big Boss). Big Boss has call forwarding to C (Secretary). The appearance of the following display does not depend on if C answers.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	D: SECRETARY	ON	S: JOHN BROWN

Network Name Display for Attendant Consoles (continued)

The AC extends the call to a DN that is not correct. The AC receives reorder treatment.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: JOHN BROWN	OFF	NO NAME INFO

Recalls to the attendant console

Calls that are not answered that the attendant extends can return to the attendant after a specified time period. If the waiting party decides to not wait, the waiting party can flash to recall to the attendant.

The following are the types of AC recalls:

- no answer
- camp-on
- call waiting
- call park
- held call auto
- held call SOURCE/DEST
- three-way call
- conference
- No answer recall - A (John Brown) calls the AC. The attendant answers.
- Party AC extends the call to B (Big Boss) and releases. Party B does not answer. On no answer recall time-out (CWNATIM) in Table CUSTCONS (Customer Group Attendant Console Option), the following occurs. The call routes back to the AC. The attendant answers.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: JOHN BROWN	ON	D: BIG BOSS

Network Name Display for Attendant Consoles (continued)

The AC extends the call to E (no name assigned). Party E does not answer. When the recall occurs and the attendant answers, the display is as follows.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: JOHN BROWN	OFF	D: NO NAME INFO

The normal camp-on recall appears in the following example. Party P (POTS) calls the AC. The AC extends to B (Big Boss). Big Boss is busy talking. Party AC releases and causes P to camp-on B. On camp-on no answer time-out, the call routes back to the AC. The attendant answers.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	D: BIG BOSS	OFF	S: NO NAME INFO

The call park recall appears in the following example. Party A (John Brown) calls the AC. The AC calls B (Big Boss). The AC parks and releases the call. After the call park timer expires, the call routes back to the AC. The attendant answers.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: JOHN BROWN	ON	D: BIG BOSS

The held call, auto recall appears in the following example. Party A (John Brown) calls the AC. The AC extends the call to B (Big Boss). The AC presses the HOLD key. After the hold call timer expires, the AC receives notification. The AC presses the Loop key to reaccess the call.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: JOHN BROWN	ON	D: BIG BOSS

Network Name Display for Attendant Consoles (continued)

The held call, source flash recall appears in the following example. Party A (John Brown) calls the AC. The AC extends the call to B (Big Boss). The AC holds the call. Party A flashes to recall to the AC. The AC answers.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: BIG BOSS	ON	D: BIG BOSS

The held call, destination flash recall appears in the following example. Party A (John Brown) calls AC. The AC extends the call to B (Big Boss). The AC holds the call. Party B flashes to recall to the AC. Party AC answers. The following display appears.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	D: BIG BOSS	ON	S: JOHN BROWN

Three-way call recall appears in the following example. Party A (John Brown) calls B (Big Boss). Party B makes a three-way call to the AC. The attendant answers. Party B is now the source. There is no destination. The AC extends the call to C (Secretary). The AC releases the call. The Secretary does not answer. After time-out, the system routes the call back to the AC. The attendant answers. The source is Big Boss. The destination is the Secretary.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: BIG BOSS	O N	D: SECRETARY

On-hold calls reaccessed by the attendant console

Only source present appears in the following example. The AC calls A (John Brown). John Brown answers. The AC holds the call. The AC reenters the held call.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: JOHN BROWN	OFF	NO NAME INFO

Network Name Display for Attendant Consoles (continued)

The source and destination are present. The AC has A (John Brown) on the SOURCE. The AC has B (Big Boss) on the DEST. The AC holds the call. The AC later reenters the held call.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: JOHN BROWN	OFF	D: BIG BOSS

Release source and release destination calls

Party A (John Brown) calls the AC. The AC extends to B (Big Boss). Big Boss answers or does not answer.

If the AC presses the release source key, the following display appears.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	D: BIG BOSS	OFF	NO NAME INFO

If the AC presses the Release Destination (RLS DEST) key, the following display appears.

Lamp	Press NAME Key	Lamp	Press NAME Key
ON	S: JOHN BROWN	OFF	NO NAME INFO

Network name display examples

Networking with ISUP trunks involves the exchange of messages according to the ISUP protocol.

There are two methods of sending name display information across ISUP trunks in a CCS7 network. The following are the two methods:

- Setup method - The system sends the name of the party with the initial address message (IAM).
- Query method - The system sends the name of the party after receiving a request message.

The setup method causes the originating switch to send the name of the calling party name in the optional part of the IAM. The system sends this name with other important information about the call. When the terminating switch

Network Name Display for Attendant Consoles (continued)

receives the IAM, the terminating switch can send back the name of the connected party on request. The terminating switch uses an ACM or answer message (ANM) to send the name.

The system does not send the name of the calling party in the IAM with the query method. The terminating switch sends a request for the name. The originating switch sends the name of the calling party.

The system can provide network name display only when end-to-end ISUP signaling is present. If ISUP signaling is not present or interworking is encountered, the necessary information does not always reach the required office.

The display examples for network name display are the same as for the nodal name display examples. The difference is that the calls come in and go out over ISUP trunks. See the nodal name display examples.

User interface

Network Name Display for Attendant Consoles does not affect user interface.

Translations table flow

The Network Name Display for Attendant Consoles translations process appears in the following flowchart. The assignment of a Network Name Display for Attendant Consoles to a customer group appears in the flowchart and data.

A description of the Network Name Display for Attendant Consoles translations tables appears in the following list:

- Table FNMAP (Attendant Console Functional Key) contains the value NAME in field SP_FN of Table FNMAP. This table allows the assignment of a key on the AC as the NAME key. Consoles that do not have a NAME key assigned cannot display name information.
- Table NETNAMES (Internal Logical Network Names) allows the operating company to define logical network names. The operating company can associate each name with a numerical network identifier. This expanded table allows a list of network options to have a logical network association.
- Table CUSTNTWK (Customer Group Network) allows the customer to associate a customer group with a network name, NETNAME in Table NETNAMES. Table CUSTNTWK allows the customer to define the

Network Name Display for Attendant Consoles (continued)

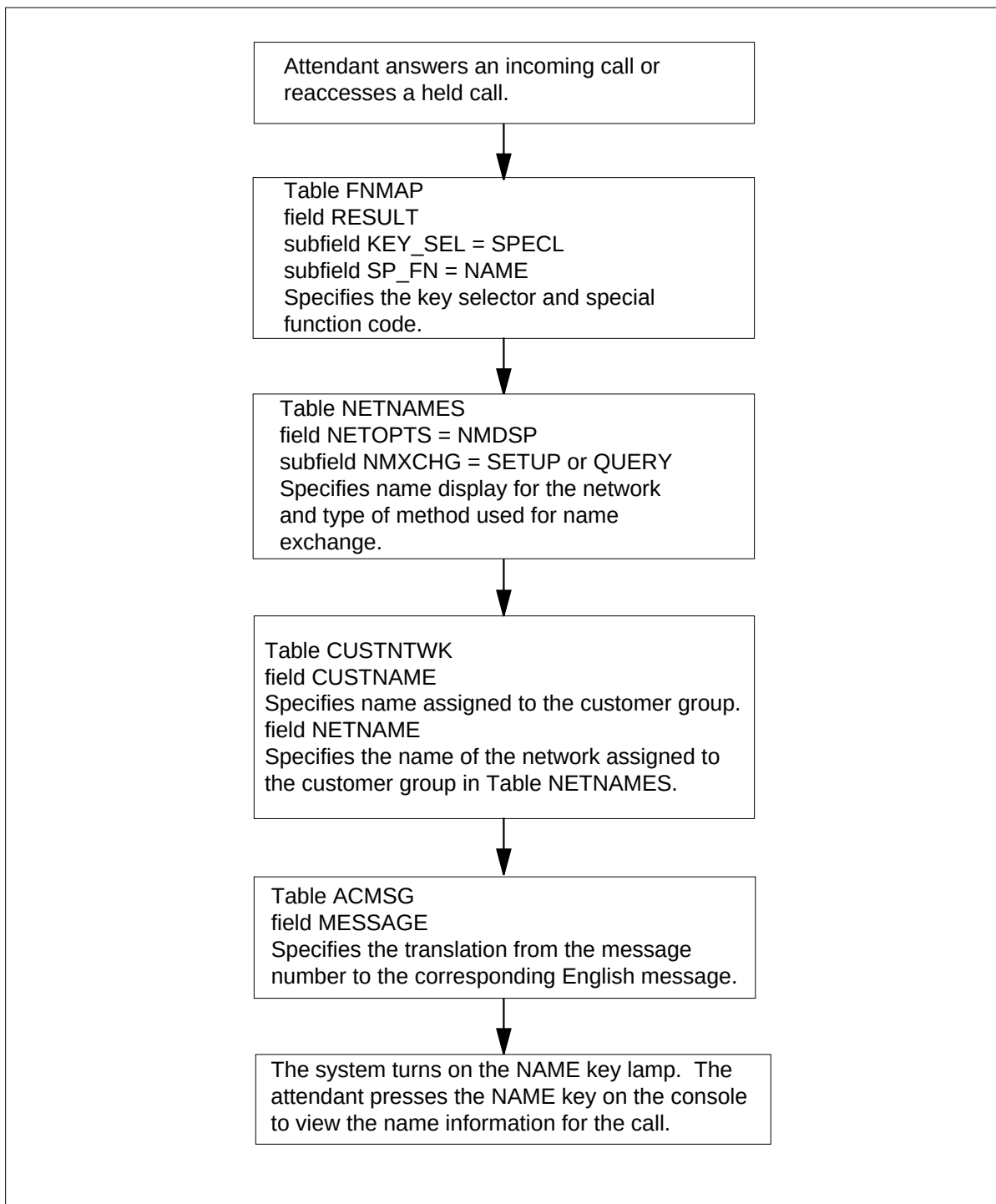
predetermined numeric identification number in NETNAME for a customer group in the network.

- Table ACMSG (Attendant Console Messages) contains AC display messages.

The Network Name Display for Attendant Consoles translation process appears in the following flowchart.

Network Name Display for Attendant Consoles (continued)

Table flow for Network Name Display for Attendant Consoles



Network Name Display for Attendant Consoles (continued)

Datafill content used in the flowchart appears in the following table.

Datafill example for Network Name Display for Attendant Consoles

Datafill table	Example data
FNMAP	IBNCON1 30 SPECL NAME
NETNAMES	NTI 2 0 (NMDSP SETUP) \$
CUSTNTWK	MDCGRP1 MAXXLZ 1 \$ (NTWRKRAG 30 5 3 12 3 5 OFFNET) \$
ACMSG	ENGLISH MSG 70 NO_NAME_INFO

Limits

The following limits apply to Network Name Display for Attendant Consoles:

- The space on the 16 character display limits the AC name display. Source and destination names longer than 14 characters do not appear because the prefix letters S: and D: require two spaces. The message NO NAME INFO appears after the S: or D:.
- The wild card key cannot have an assigned NAME function. The NAME function has an assigned key and lamp.
- The ACs are not assigned names. When a call involves the attendant, use the console CLLI instead of a name.
- Network name display occurs when end-to-end ISUP signaling is present. If ISUP signaling is not present or interworking is encountered, the name display information does not always reach the required office.

Interactions

The interactions between Network Name Display for Attendant Consoles and other functionalities appear in the following paragraphs.

Flexible Display Language

The default display messages for AC name display are in English. The default display messages include NO NAME INFO, S:, and D:. The Flexible Display Language feature allows the operating company to create display messages for other languages. Table ACMSG stores the display messages, including the English messages. Table ACLANG defines languages. The Flexible Display Language feature (BR0455, NTX175AA) can be present. If this condition applies, you can define the messages NO NAME INFO, S:, and D: for other languages.

Network Name Display for Attendant Consoles (continued)

TIME Key

After the console displays information from the Time (TIME) key, the display returns to the last display of the DSPC key. This process occurs even if the NAME key was the last key the attendant pressed before the TIME key.

Note: If a station does not have a name, Network Name Display for Attendant Consoles displays NO NAME INFO at the AC.

Activation/deactivation by the end user

The NAME key has a lamp. The lamp turns on when name information to display is present. The lamp remains off if there is no information to display. When the NAME lamp is on, the attendant can press the NAME key to see the name information for the call. If you press the NAME key when the NAME lamp is off, a message appears that indicates names are not available. The default message is NO NAME INFO.

Billing

Network Name Display for Attendant Consoles does not affect billing.

Station Message Detail Recording

Network Name Display for Attendant Consoles does not affect Station Message Detail Recording.

Datafilling office parameters

Network Name Display for Attendant Consoles does not affect office parameters.

Datafill sequence

Tables that require datafill to implement Network Name Display for Attendant Consoles appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Network Name Display for Attendant Consoles

Table	Purpose of table
FNMAP	Attendant Console Functional Key. Local switching units that have IBN require this table. This condition applies when one or more of the customer groups are arranged for attendant consoles.
NETNAMES	Internal Logical Network Names. This table allows the operating company to define logical network names. The operating company can associate each name with a numerical network identifier.

Network Name Display for Attendant Consoles (continued)

Datafilling table NETNAMES

Table NETNAMES (Internal Logical Network Names) allows the operating company to define logical network names. The operating company can associate each name with a numerical network identifier. The expansion of this table allows the association of a list of network options with a logical network.

The CCS7 network name display for the AC can be a requirement. If this condition applies, the network name display option, NMDSP, in Table NETNAMES must have an assignment. The assignment of NMDS must be to the network to which the customer group belongs.

Datafill for Network Name Display for Attendant Consoles for table NETNAMES appears in the following table. The fields that apply to Network Name Display for Attendant Consoles appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table NETNAMES

Field	Subfield or refinement	Entry	Explanation and action
NETNAME		1 to 32 character network name	Logical Network Name. This field specifies the logical network name. Enter a 1 to 32 character network name.
NETOPTS		NMDSP	Network Option. This field specifies where name exchange is a requirement. Enter NMDSP to allow name display for the network.
If NETOPTS has a NMDSP setting, subfield NMXCHG requires datafill.			
	NMXCHG	SETUP or QUERY	Name Exchange Method. This subfield specifies the type of method used for name exchange. Enter SETUP to append the name of the calling party in the setup message. Enter QUERY to send the name of the connected party with a received request.

Datafill example for table NETNAMES

Sample datafill for table NETNAMES appears in the following example.

Network Name Display for Attendant Consoles (continued)

MAP example for table NETNAMES

TABLE: NETNAMES		NETNAME	EXTENID	NETDIGS
NETOPTS				
NTI	2	0		(NMDSPSETUP) \$

Datafilling table CUSTNTWK

Datafill for Network Name Display for Attendant Consoles for table CUSTNTWK appears in the following table. The fields that apply to Network Name Display for Attendant Consoles appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CUSTNTWK

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		alphanumeric (1 to 16 characters)	Customer Group Name. This field specifies the name assigned to the customer group. Enter the 1 to 16 character alphanumeric name. Table CUSTHEAD (Customer Group Head) must contain this name.
NETNAME		alphanumeric (1 to 32 characters)	Network Name. This field specifies the name of the NETWORK assigned to the customer group in Table NETNAMES. Enter the 1 to 32 character alphanumeric name.

Datafill example for table CUSTNTWK

Sample datafill for table CUSTNTWK appears in the following example.

MAP example for table CUSTNTWK

TABLE: CUSTNTWK					
CUSTNAME	NETNAME	NETCGID	DNREVXLA	OPTIONS	
MDCGRP1	MAXXLZ	1			
	(NTWRKRAG 30 5 3 12 3	5 OFFNET)	(CLID OFFNET)	\$	

Network Name Display for Attendant Consoles (end)

Datafilling table ACMSG

Datafill for Network Name Display for Attendant Consoles for table ACMSG appears in the following table. The fields that apply to Network Name Display for Attendant Consoles appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table ACMSG

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		alphanumeric (1 to 16 characters)	Customer Group Name. This field specifies the name assigned to the customer group. Enter the 1 to 16 character alphanumeric name. Table CUSTHEAD (Customer Group Head) must contain this name.
NETNAME		alphanumeric (1 to 32 characters)	Network Name. This field specifies the name of the NETWORK assigned to the customer group in Table NETNAMES. Enter the 1 to 32 character alphanumeric name.

Datafill example for table ACMSG

Sample datafill for table ACMSG appears in the following example.

MAP example for table ACMSG

TABLE: ACMSG			MESSAGE		
MSGKEY					
ENGLISH	MSG	70	NO_NAME_INFO		

Tools for verifying translations

Network Name Display for Attendant Consoles does not use tools for verifying translations.

SERVORD

Network Name Display for Attendant Consoles does not use SERVORD.

Network Wide Ring Again

Ordering codes

Functional group ordering code: MDC00006

Functionality ordering code: not applicable

Release applicability

BCS25 and up

Prerequisites

To operate, Network Wide Ring Again has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MBS Minimum, MDC00007
- TEL CCS7 Base, TEL00008
- NI0 NI-1 PRI Networking, NI000013
- MDC Standard, MDC00003

Description

Network Wide Ring Again enables a caller encountering a busy signal on a different switch to be notified when the called party becomes idle. If the caller accepts the recall, the original call is automatically redialed. (Before Network Wide Ring Again, this capability was possible only when the *same* switch served both the originating and terminating lines.)

In addition, this feature extends the scope of the existing nodal ring again (RAG) to automatically recall busy stations on a different switch in the network in the same customer group. To assist in user comprehension, Network Wide Ring Again and nodal RAG operate similarly.

This feature uses Common Channel Signaling Number No. 7 (CCS7) to communicate between the originating and destination nodes.

Operation

Network Wide Ring Again operates with several software timers that measure the length of time that the originating and terminating switches wait for a specific action to occur, such as an expected reply to a message.

The timers used during Network Wide Ring Again are described in the following paragraphs.

Network Wide Ring Again (continued)

Timer T2 - RAG recall

Timer T2 sets the length of time that the originating switch waits for the caller to answer the RAG recall. If the RAG recall is not answered before T2 expires, the RAG request is terminated.

The value for timer T2 ranges from 9 to 32 seconds and is set while datafilling Table CUSTSTN (Customer Group Station Option).

Timer T5 - reply to query

Timer T5 sets the length of time that the originating switch waits for a reply to the initial query with permission (QUERY+P) message which is sent when the caller activates Network Wide Ring Again. The originating switch requests a called party free notification from the terminating switch. Under normal operating conditions, a conversation with permission (CONV+P) message is returned to the originating switch which confirms that the terminating switch accepts the request. However, if no reply is received by the originating switch and timer T5 expires, a second QUERY+P message is sent and timer T5 restarts. If it expires a second time, the RAG request is rejected.

Timer T6 - request duration at originating switch

Timer T6 is started at the originating switch once it receives confirmation from the terminating switch that the RAG request was accepted. If the called party does not become idle before timer T6 expires, the RAG request is terminated. The value of timer T6 is set at 30 minutes.

Timer T7 - request duration at terminating switch

Timer T7 is started at the terminating switch when the RAG request is accepted. If this timer expires, the RAG request is terminated. The value of timer T7 is fixed at 31 minutes. (Under normal conditions, timer T7 doesn't expire since timer T6 at the originating switch is set at 30 minutes and expires first.)

Guard timer

The terminating switch starts the guard timer (GT) when the called party becomes idle. When the called party has been idle for the length of time specified by the GT, the originating switch is notified that RAG recall can proceed. This delay allows the called party, immediately after hanging up, to originate or answer another call before the RAG request is received. GT is set at 2 seconds.

Queue advance timer

The queue advance timer (QAT) is started when the terminating switch sends a called party free notification message back to the originating switch. When the QAT expires, the next RAG request against the called party (if any) moves

Network Wide Ring Again (continued)

to the top of the queue. The new caller is notified when the called party becomes idle and the QAT is restarted. QAT is set at 30 seconds.

Generating called directory numbers

In this protocol, the calling and called numbers are required parameters as 10-digit directory numbers (DNs).

The originating digital multiplex system (DMS) must be able to decipher the called party's DN from the digits dialed, as well as the point code (PC) of the terminating switch. The terminating DMS also must decipher the called party's DN from the dialed digits to activate the request for the correct line.

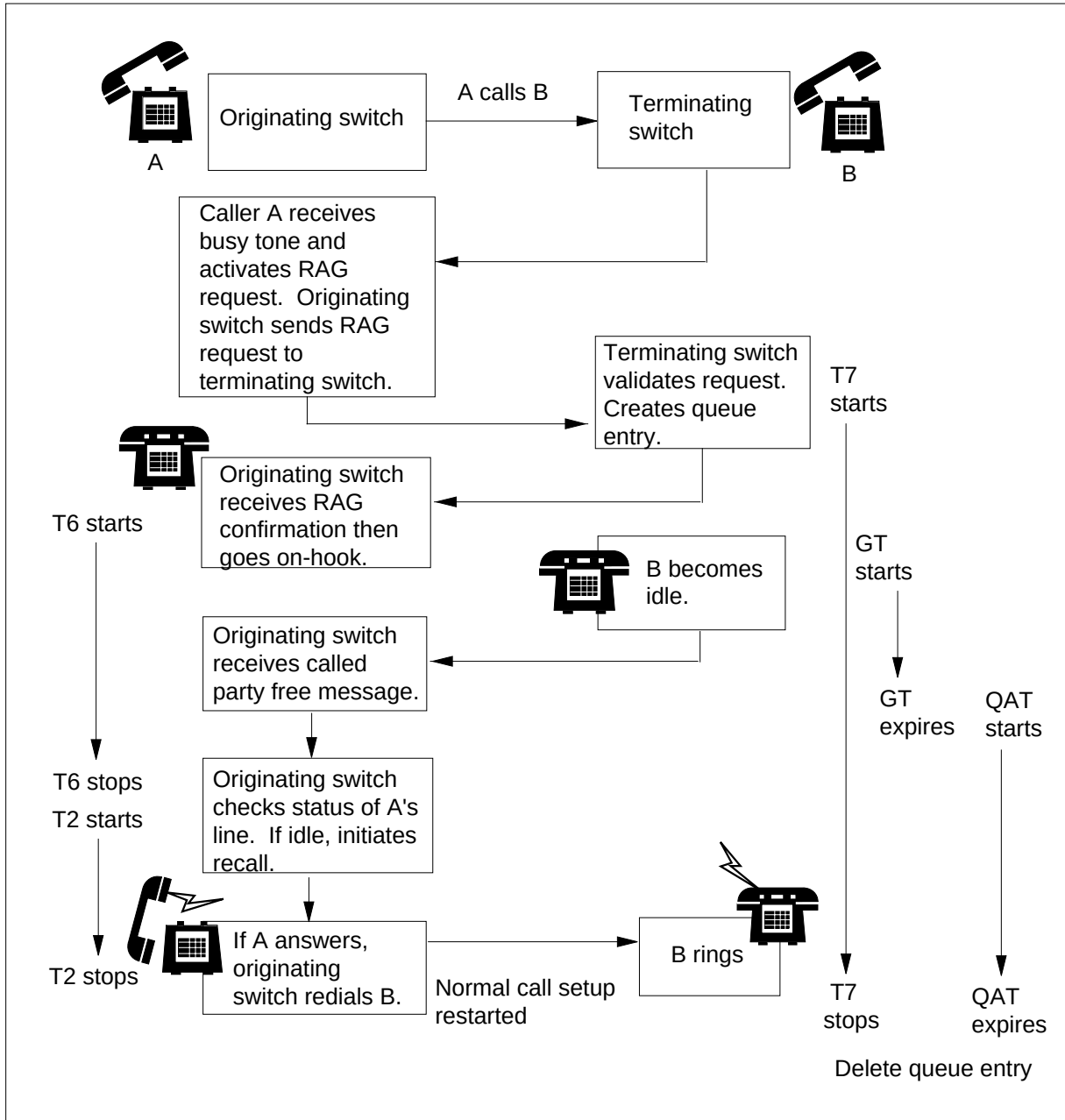
Figures

The following figures depict typical Network Wide Ring Again operating scenarios including:

- Successful RAG completion
- Caller is busy on recall; called party remains idle
- Caller does not answer recall
- Called party is idle when RAG request is received
- Caller cancels request
- RAG initially denied by called party
- Timer T6 expires
- Timer T7 expires before timer T6
- Timers T6 and T7 expire simultaneously
- RAG request denied; terminating switch B can't scan
- Re-origination of RAG request (no response)

Network Wide Ring Again (continued)

Successful RAG completion

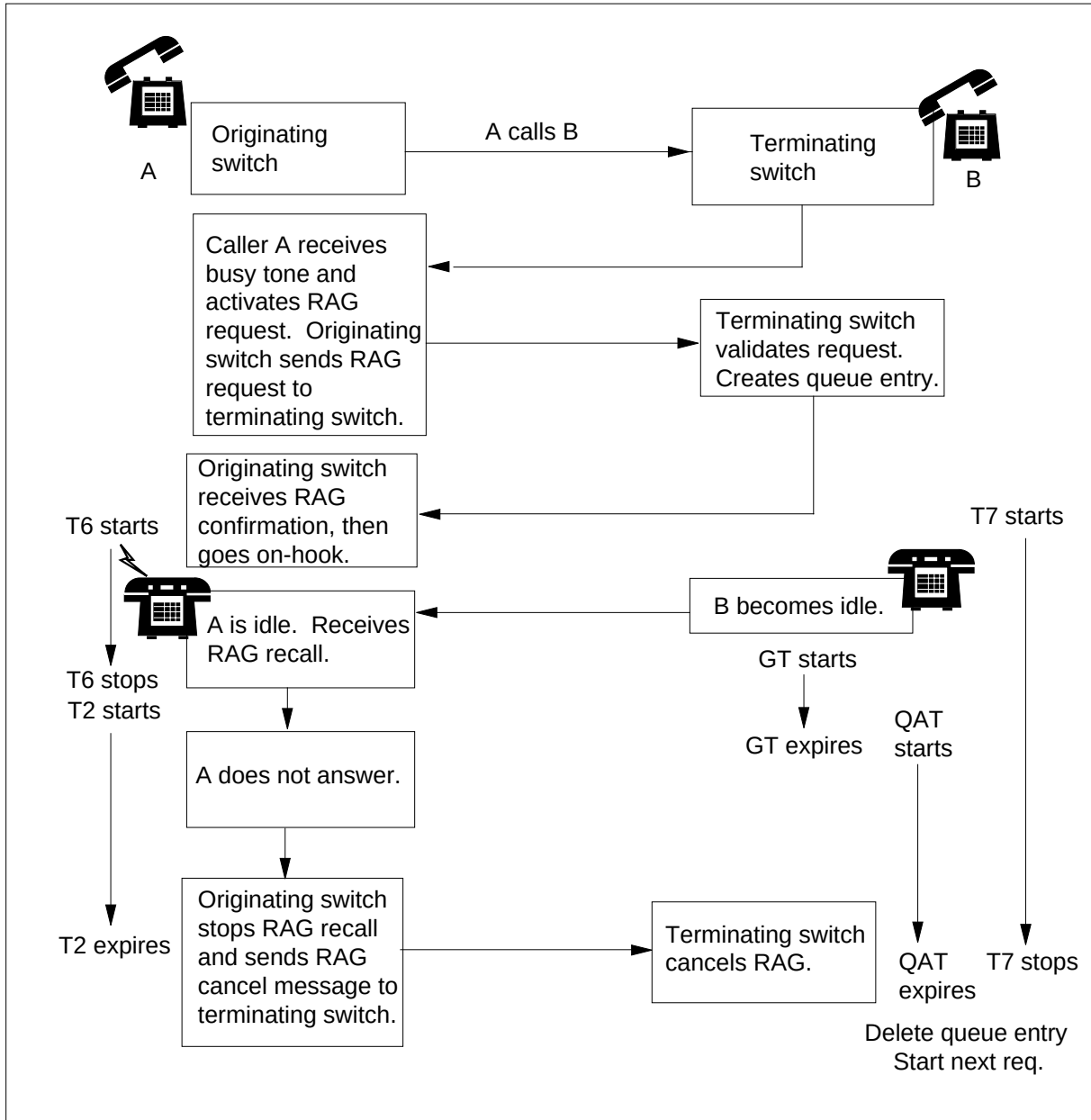


```
sequenceDiagram
    participant A as A
    participant OS as Originating switch
    participant TS as Terminating switch
    participant B as B

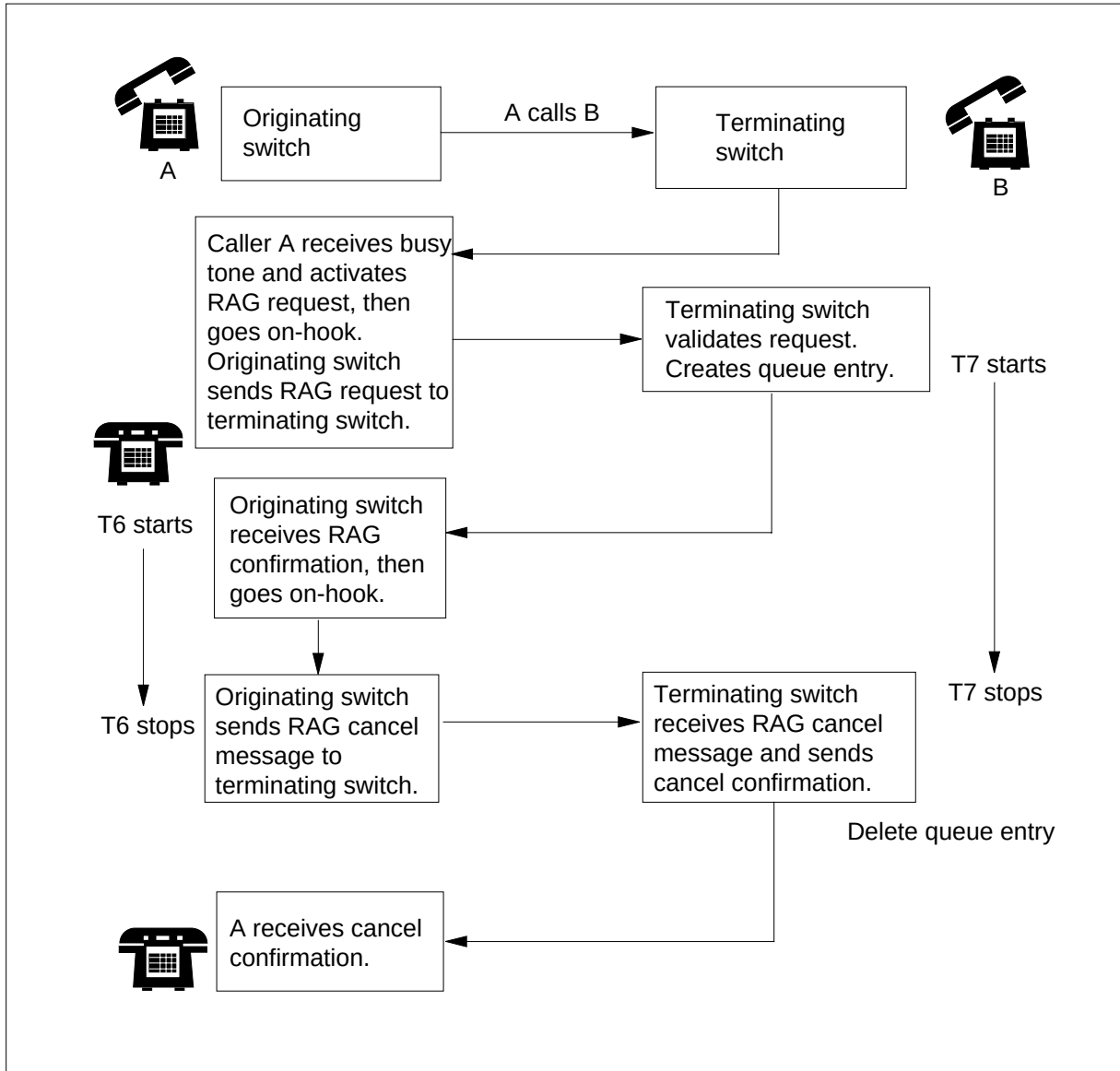
    A->>OS: A calls B
    OS->>TS: 
    Note over OS: Caller A receives busy tone and activates RAG request. Originating switch sends RAG request to terminating switch.
    OS->>TS: 
    Note over TS: Terminating switch validates request. Creates queue entry.
    TS->>OS: 
    Note over OS: Originating switch receives confirmation tone, then goes on-hook.
    Note over OS: A becomes busy.
    Note over OS: Request is left queued at originating switch.
    Note over OS: A becomes idle.
    OS->>TS: Originating switch sends RAG resume message to terminating switch.
    Note over OS: Recall
    TS->>B: B rings
    Note over B: B becomes idle.
    Note over TS: Queue inactive
    Note over TS: if B is idle
    Note over TS: T7 starts
    Note over TS: GT starts
    Note over TS: GT expires
    Note over TS: QAT starts
    Note over TS: QAT expires
    Note over TS: Queue active
    Note over TS: QAT starts
    Note over TS: QAT expires
    Note over TS: T7 stops
    Note over OS: T6 starts
    Note over OS: T6 stops
    Note over OS: T2 starts
    Note over OS: T2 stops
    Note over OS: A answers
    Note over OS, B: Normal call setup
```

Network Wide Ring Again (continued)

Caller does not answer recall

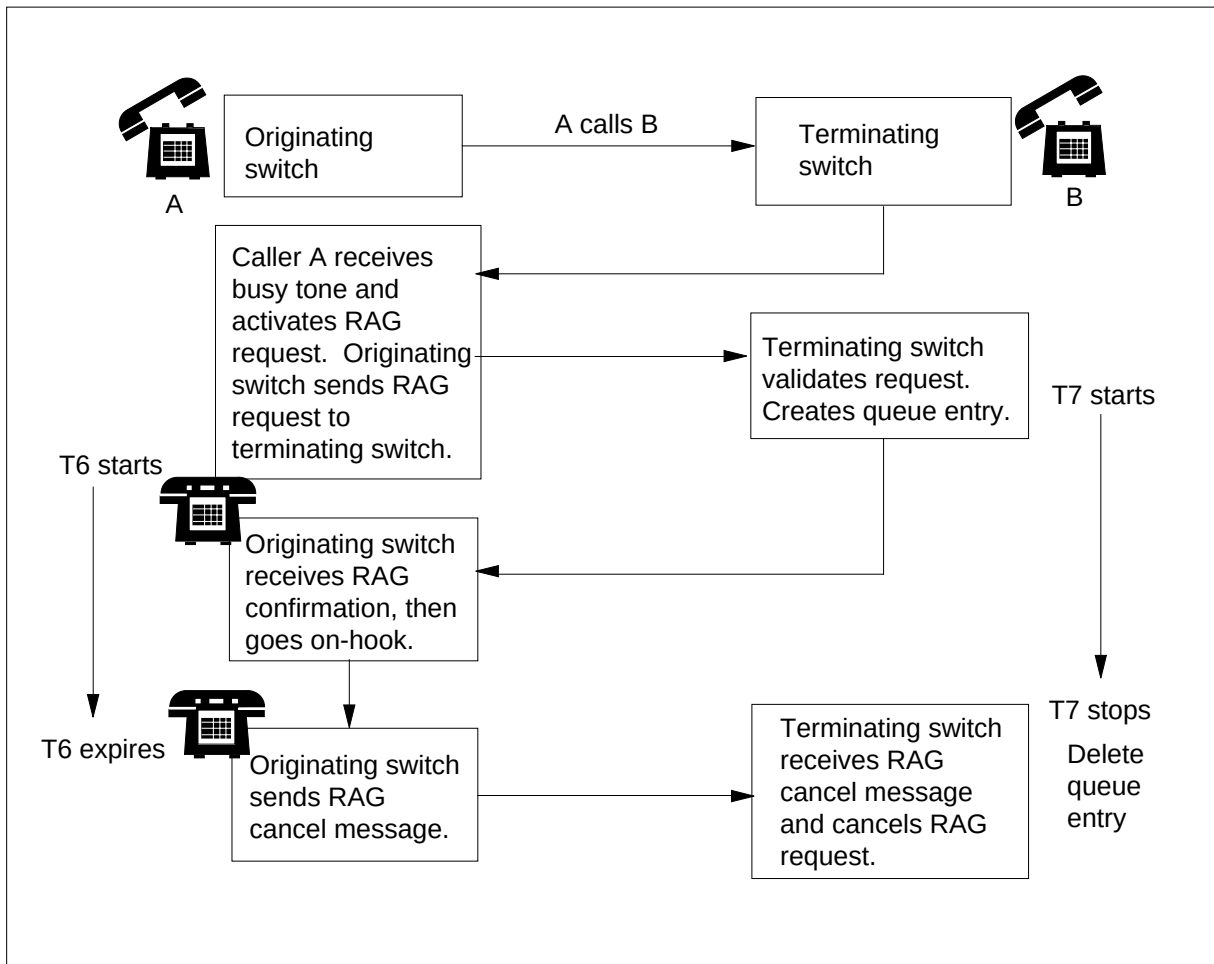


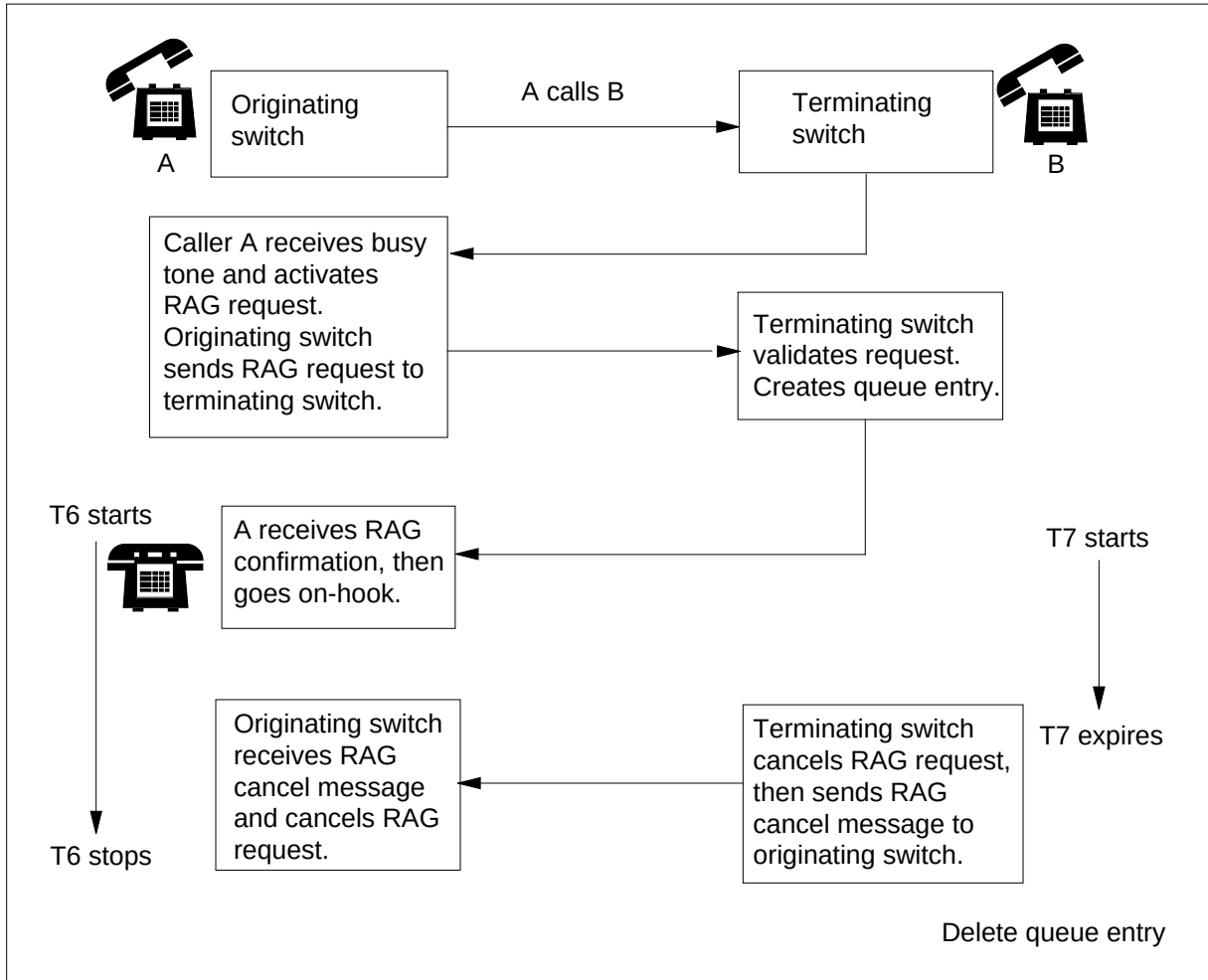
[illegible]

Network Wide Ring Again (continued)**Caller cancels request**

Network Wide Ring Again (continued)

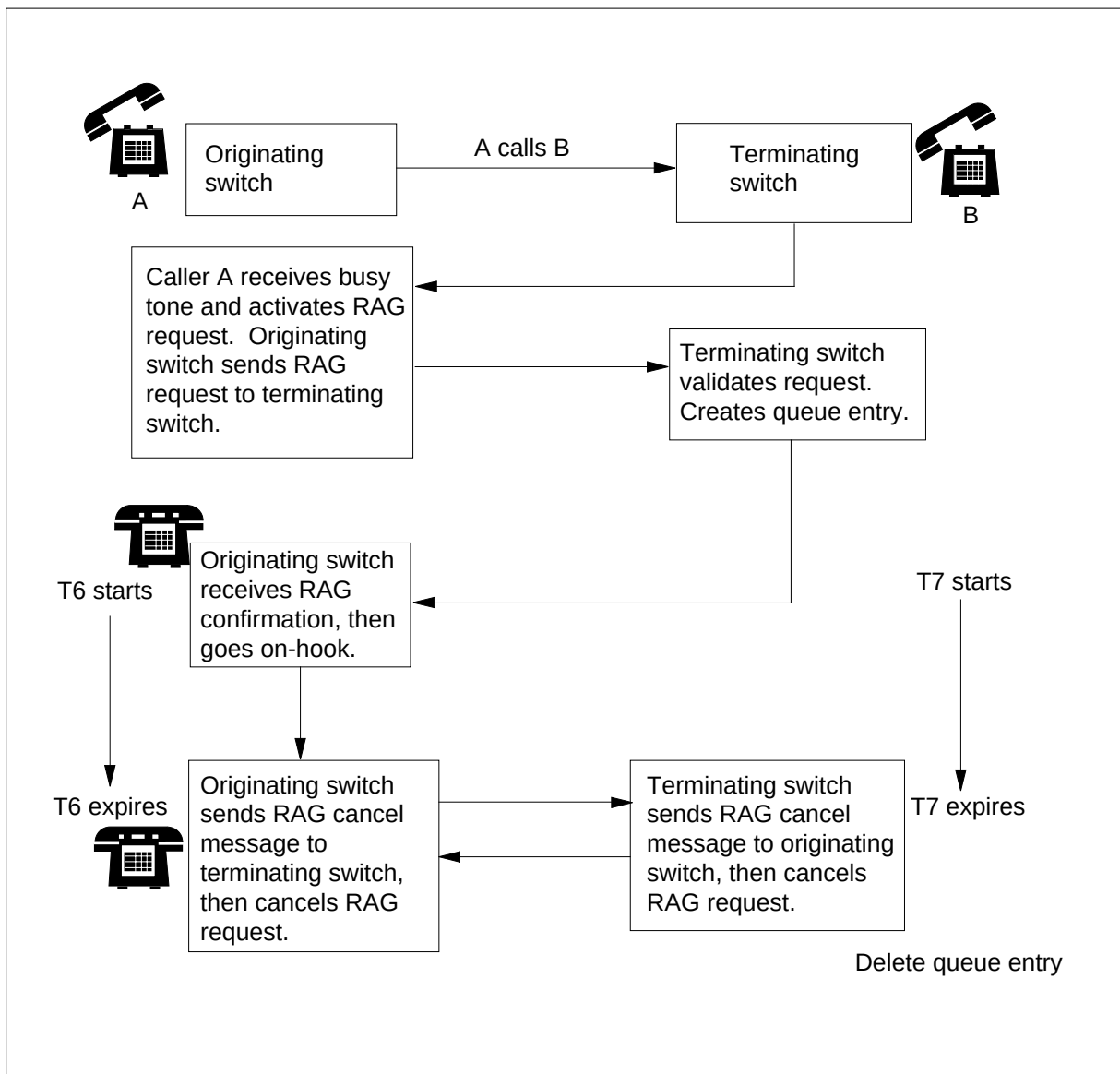
Timer T6 expires

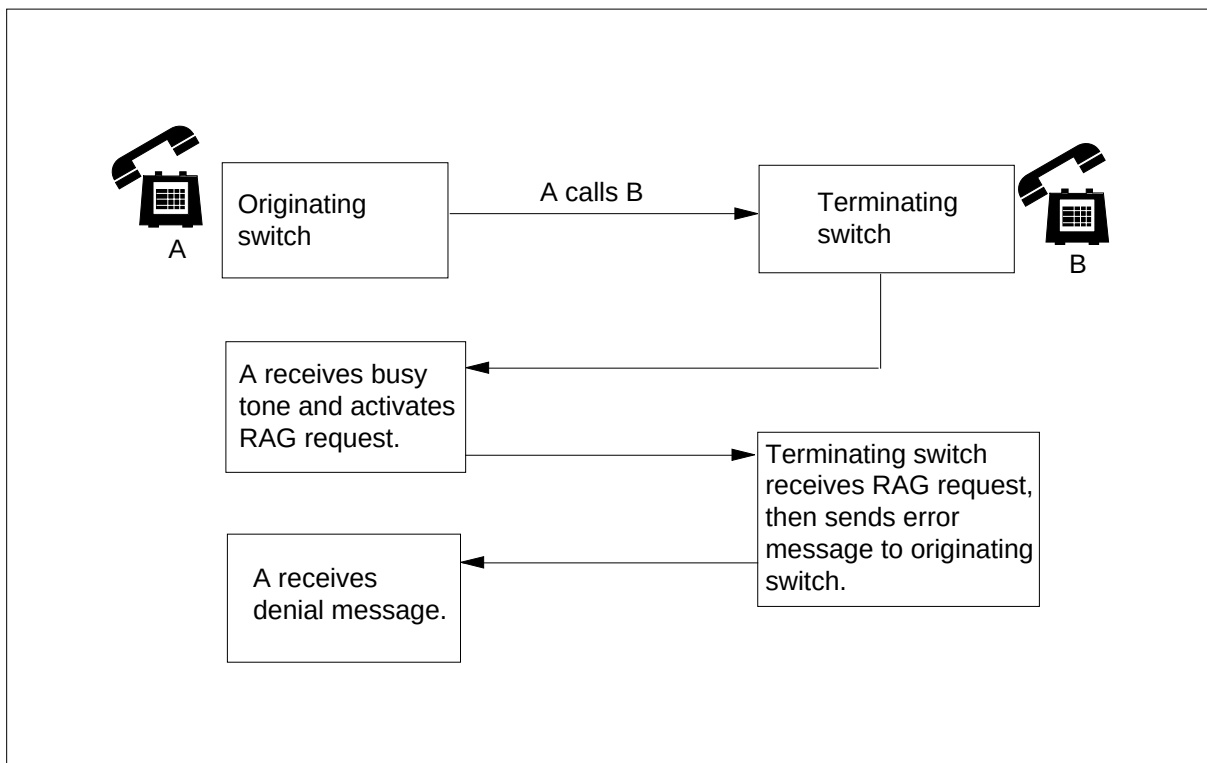


Network Wide Ring Again (continued)**Timer T7 expires before timer T6**

Network Wide Ring Again (continued)

Timers T6 and T7 expire simultaneously



Network Wide Ring Again (continued)**RAG request denied; terminating switch B can't scan**

```

sequenceDiagram
    participant A as A
    participant OS as Originating switch
    participant TS as Terminating switch
    participant NR as No response
    participant A2 as A receives denial message.

    A->>OS: A calls B
    OS->>TS: 
    TS->>OS: 
    Note over OS: Caller A receives busy tone and activates RAG request. Originating switch sends RAG request to terminating switch.
    OS->>NR: 
    TS->>OS: 
    Note over OS: Originating switch receives no response from terminating switch. Resends RAG request.
    OS->>NR: 
    NR->>OS: 
    Note over OS: Originating switch receives no response to second request. Cancels RAG request.
    OS->>A2: 
    Note over A: A receives denial message.
  
```

The diagram illustrates the RAG request process between an Originating switch and a Terminating switch. It shows the flow of messages and the state of the Originating switch at different points in time (T5 starts, T5 expires, T5 restarts, T5 expires again).

- Initial State:** A calls B. The Originating switch sends a request to the Terminating switch.
- First Request:** The Terminating switch sends a response back to the Originating switch. The Originating switch sends a RAG request to the Terminating switch.
- First Failure:** The Terminating switch sends a "No response" message back to the Originating switch. The Originating switch resends the RAG request.
- Second Request:** The Terminating switch sends a "No response" message back to the Originating switch. The Originating switch receives no response to the second request and cancels the RAG request.
- Final State:** A receives a denial message.

Network Wide Ring Again does not affect translations table flow.

Network Wide Ring Again (continued)

Limitations and restrictions

The following limitations and restrictions apply to Network Wide Ring Again:

- The originator's customer group must contain Network Wide Ring Again and Table IBNXLA (IBN Translation) must be datafilled to establish a RAG access code.
- A transaction capabilities application part (TCAP) link must exist between the originating and terminating switches.
- Each caller can activate only one RAG request (nodal or network) at a time. If an originating switch already contains a RAG request and a caller attempts to activate another, the first request is canceled.
- Both the originating and terminating lines must belong to the same network customer group. That is, the network customer group identifier (field NETCGID in Table CUSTNTWK [Customer Network]) for the originator's customer group must be equal to that of the terminator's customer group.
- For BCS25, Network Wide Ring Again only operates if both the originating and terminating lines are served by a DMS, unless another manufacturer supports the protocol used. If the protocol is not supported, the RAG activation request is ignored or rejected.
- The originating call must be sent over an ISUP trunk.

Interactions

The following paragraphs describe the interactions between Network Wide Ring Again and other functionalities.

The following features interact with Network Wide Ring Again. (These features also interact with nodal RAG in a similar manner, except where noted.)

- Ring Again Recall. This is option RAGRCOPT. When option RAGRCOPT is assigned to a customer group, in table CUSTSTN, Ring Again, Network Wide Ring Again, and Call Back Queuing only recall to a Meridian Business Set when the set is idle.
- Attendant Console. A terminating switch blocks Network Wide Ring Again from being activated if the AC has also been activated. However, a caller can activate Network Wide Ring Again on another party that is busy as a result of talking to an attendant console (AC).

Network Wide Ring Again (continued)

- Automatic Call Distribution. A terminating switch blocks a caller from activating Network Wide Ring Again against any of the Automatic Call Distribution (ACD) DNs within an ACD group.
- Call Back Queuing. Call Back Queuing (CBQ) or RAG (nodal or network) is activated when the caller receives a busy signal or a generalized no circuit treatment. The DMS determines which feature type to apply according to the following conditions:
 - Nodal RAG - when the destination is a line and the caller receives busy treatment
 - Network RAG - when the destination is an ISUP trunk and the caller receives busy treatment
 - CBQ - when the destination is a trunk and the caller receives generalized no circuit treatment

An originating switch can have only one RAG (nodal or network) request or one CBQ request pending at any one time. The original is overwritten when a caller attempts to activate a second request.

- Call Forwarding. Network Wide Ring Again interacts with Call Forwarding (CFW) options - Call Forward Universal (CFU), Call Forward Intragroup (CFI), Call Forward Do Not Answer (CFD), and Call Forward Busy (CFB) as follows:
 - Call Forward Universal, CFI, or CFD are activated by a called party (the second party) and take priority over Network Wide Ring Again. If the forwarded party (the third party) is busy, the caller (the first party) can activate RAG. The RAG request is sent once the forwarded party becomes idle. If the called party has not removed Call Forwarding when the ringback occurs, the call is automatically sent to the forwarded party. If the called party has removed Call Forwarding, the ringback is sent to the called party.
 - When a called party with CFB activated is busy, the call follows the CFB feature on the original call. If the forwarded party is also busy and the caller activates RAG, the request is activated against the called

Network Wide Ring Again (continued)

party. The called party is rung again if the caller answers the RAG recall.

- The following Call Forwarding-related results occur when a caller has activated Network Wide Ring Again on a busy party that has since become idle:
 - The RAG recall is routed to the originating switch if a caller activates CFU or CFI.
 - If a caller activates CFD and does not answer before the CFD timer expires (but the RAG recall has not expired), the call is not forwarded. (Only timer T2 applies to this situation.)
 - If a caller with the CFB feature becomes busy, the RAG request remains pending until both parties are idle. (Network Wide Ring Again does not follow CFB routing.)
 - If a caller activates Network Wide Ring Again and the called party then activates CFU or CFI, the RAG request is not canceled. When the caller answers the RAG recall, the call follows the CFU or CFI routing.
 - If a called party activates CFD, the caller must answer the RAG recall before the CFD timer expires or the call will be forwarded.
- Call Pickup. Network Wide Ring Again interacts with Call Pickup (CPU) as follows:
 - RAG recalls cannot be picked up with CPU or Directed CPU.
 - After the caller answers the RAG recall, the called party can pick up the call using the CPU feature.
- Call Waiting and Attendant Camp-On. If the called party has activated Call Waiting (CWT), the caller can activate Network Wide Ring Again after it receives a busy signal. If the called party becomes busy, then the CWT feature is served first, followed by any other incoming calls. When all incoming calls have been served, the Network Wide Ring Again request is finally served.
- Hunt Groups. A caller can activate a RAG request for a DN in a DN hunt (DNH), a multiline hunt (MLH) or a distributed line hunt (DLH) group. The request is placed against the whole logical group. (That is, the caller's station is recalled if a hunt group member becomes idle which the caller could have contacted by dialing the original number. Refer to the feature description for "Ring Again on Hunt Groups."

Network Wide Ring Again (continued)

- Make Set Busy and Do Not Disturb. Network Wide Ring Again interacts with Make Set Busy (MSB) and Do Not Disturb (DND) as follows:
 - If the caller has activated MSB or DND, the RAG recall is not blocked. (That is, the caller's station can still be recalled, can answer a recall and can re-ring the called party.)
 - If the caller has received a busy signal because the called party has activated MSB or DND, then the caller cannot activate RAG against the called party. (The originating switch receives a reject message.)
 - Even though the called party is idle, the caller receives a busy signal during a RAG recall when the called party has activated MSB or DND.
- Multiple Appearance Directory Number. Network Wide Ring Again is assigned on a per line basis. Any Multiple Appearance Directory Number (MADN) member can activate Network Wide Ring Again, and only the activating member receives the RAG recall. Each MADN member can activate only one RAG request message at a time.

Activating Network Wide Ring Again against a MADN group (Multiple Call Arrangement [MCA] or Single Call Arrangement [SCA]) is executed the same as with normal IBN lines. If a RAG request is pending for a MADN MCA group, then the request is served when any member of the group becomes idle.

- Nodal Ring Again. As mentioned previously, nodal RAG operates similarly to Network Wide Ring Again. However, Network Wide Ring Again operation is completed once the originating switch has been recalled. During nodal RAG recall the request remains active if the caller receives a busy signal with 500/2500 telephones.

Each caller can activate only one RAG request — nodal or network — at a time. Also a maximum of eight different originating switches can send RAG request messages — nodal or network — to any one terminating switch

Network Wide Ring Again (continued)

simultaneously. The RAG request messages are served in the order in which they were queued.

- Three-Way Calling and Conference Calling. Network Wide Ring Again interacts with Three-Way Calling (3WC) and Conference Calling as follows:
 - The originating switch blocks the caller from activating Network Wide Ring Again while on the second leg of a three-way call or while adding conferees to a conference.
 - The originating switch blocks the caller on a 500/2500 telephone set from deactivating Network Wide Ring Again while on the second leg of a three-way call or while adding conferees to a conference.
 - An MBS caller can deactivate Network Wide Ring Again at any time except during RAG recall.
 - A caller can activate Network Wide Ring Again against another party involved in a three-way or conference call.
- Uniform Call Distribution. The terminating switch blocks a caller from activating Network Wide Ring Again against any of the Uniform Call Distribution (UCD) DNs in a UCD group.

Activation/deactivation by the end user

Network Wide Ring Again operation consists of activation, recall, and deactivation procedures. Basic activation and recall operates as follows:

- A caller whose originating line has RAG dials another party on a different switch who is on another call.
- Receiving a busy signal, the caller activates Network Wide Ring Again.
- The caller then receives a tone that confirms the call has been queued against the called party's station and the caller can now hang up or make other calls.
- When the called party becomes idle, the terminating switch sends a message back to the originating switch. If the caller's station is idle, the recall begins once the caller accepts the recall.
- The caller's originating switch automatically redials the same number.

Activation

When a party places a call to another line on a different switch over an integrated services digital network user part (ISUP) trunk without interworking and receives a release with cause=busy message (a busy signal), the outgoing ISUP trunk is deallocated. The caller then activates Network

Network Wide Ring Again (continued)

Wide Ring Again, which causes the originating switch to send a RAG request message to the called party's terminating switch.

When the terminating switch receives the RAG request message, one of the following three situations can occur:

- A response indicates that the RAG request was accepted. If the caller is using a Meridian business set (MBS), the RAG key light stops winking and turns solid.
- A response indicates that the RAG request was rejected. (Refer to the Feature Interactions section for details.)
- No response is indicated and Network Wide Ring Again is automatically deactivated if the terminating switch does not answer the request before timer T5 expires twice. Whenever an originating switch sends a RAG request, timer T5 starts. If it expires before the terminating switch responds, then the originating switch repeats the request. If timer T5 expires a second time, the RAG request is rejected.

In the last two situations, the caller receives no acknowledgment (NACK) treatment if it is still off-hook. If the caller is using an MBS, the RAG key light is turned off.

Once the terminating switch receives the RAG request message, it checks the line state of the requested agent as well as for feature interactions. (Refer to the Feature interactions section for details.)

The terminating switch can accept or reject the RAG request message. If the terminating switch rejects the request, it sends a RAG reject message back to the originating switch. The terminating switch accepts the RAG request if the line is either idle or busy on another call. Upon acceptance, the terminating switch then sends a RAG request accepted message back to the originating switch where the request is queued.

A maximum of eight different originating switches can send RAG request messages simultaneously to any one terminating switch. The RAG request messages are served in the order in which they were queued. However, each caller can activate only one RAG request message at a time. If an originating switch already contains an activated RAG request and a caller attempts to activate another, the first request is cancelled.

Recall

Once the called party becomes idle, its switch recognizes that another party has activated Network Wide Ring Again on its line and automatically starts a GT. When the length of time expires (typically 6 seconds), the called party's

Network Wide Ring Again (continued)

busy/idle status is checked again to determine if it can now accept an incoming call.

If the called party remains idle, its switch sends a called party free message back to the originating switch and the QAT starts. If the originating switch does not send a RAG cancel message to the terminating switch before QAT expires, then the RAG request is temporarily deactivated and will not be resubmitted until it is reactivated. On the other hand, if the QAT expires, then the next pending RAG request (if available) is sent to the terminating switch. The request is left pending if the called party is still busy.

Once the originating switch does receive the terminating switch's called party free message, it checks the status of the originating line.

If the originating line is idle, then the recall process begins when the originating line accepts the recall. The originating switch redials the called party's number. The call is placed on whichever routing facility is available, regardless of how the call was initially routed.

However, if the originating line is busy, then the RAG request is left queued with the originating switch. When the originating line becomes idle, its switch sends a RAG resume message to the terminating switch. This action reactivates the RAG request message and checks the status of the terminating line. If the terminating line is idle, the originating switch resubmits its request.

Network Wide Ring Again recall is completed when the caller receives one of the following results:

- audible ringing
- busy treatment if the terminating line becomes busy again
- or no circuit treatment if there was no routing facility available

If the originating line is idle when the RAG recall is received, the procedure continues for the length of time datafilled for timer T2. If the originating line does not respond to the RAG recall before timer T2 expires, the recall is stopped and the originating switch automatically cancels Network Wide Ring Again.

If the caller wants to reactivate Network Wide Ring Again to the same called party, the entire procedure must be repeated.

Deactivation

At any point before the Network Wide Ring Again recall begins, the caller can manually deactivate the RAG request at the originating switch.

Network Wide Ring Again (continued)

To cancel a Network Wide Ring Again request on a 500/2500 set, flash the hook switch a second time and redial the called party's access code. Or to cancel a Network Wide Ring Again request on an MBS, press the RAG key a second time. (Only MBS telephones display visible cancellation notices; that is, their RAG key lights go out.) A RAG cancel message is then sent to the terminating switch which, in turn, sends confirmation of the cancellation back to the originating switch.

Network Wide Ring Again can also be cancelled automatically if any of the duration timers expire at the originating or terminating switch. When a timer expires, the switch where the cancellation occurred sends a RAG cancel message to the other switch.

Billing

If the original call required station message detail recording (SMDR), then the ringback call also requires SMDR. In the ringback call's SMDR record, the originating feature code indicates that the call was completed with the RAG CBQ feature. Nodal RAG also operates in the same manner.

Station Message Detail Recording

Network Wide Ring Again does not affect Station Message Detail Recording.

Datafilling office parameters

Network Wide Ring Again does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement Network Wide Ring Again. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Network Wide Ring Again (Sheet 1 of 2)

Table	Purpose of table
C7NETSSN	CCS7 Network Subsystem Routing. This table contains nodes accessible within the network and the applications at those nodes that can be addressed by signaling connection control part (SCCP).
C7LOCSSN	CCS7 Local Subsystem) contains information for the local subsystem.

Network Wide Ring Again (continued)

Datafill tables required for Network Wide Ring Again (Sheet 2 of 2)

Table	Purpose of table
CUSTNTWK	Customer Network. This table provides the operating company client with the ability to specify a network name (NETNAME) with which a customer group is associated.
CUSTSTN	Customer Group Station Option) contains the station options assigned to each of the customer groups.

Datafilling table C7NETSSN

Table C7NETSSN (CCS7 Network Subsystem Routing) contains nodes accessible within the network and the applications at those nodes that can be addressed by signaling connection control part (SCCP). Each node is recognized by a unique PC. Each feature application, such as Network Wide Ring Again, is recognized as a subsystem within the network.

Each subsystem is also recognized across the CCS7 network by a subsystem name; for example, NETRAG for Network Wide Ring Again. The subsystem is further recognized at each node by a unique subsystem number (SSN). Each node has its own unique set of SSNs. Thus, an application can be recognized at both originating and terminating switches by different SSNs.

The following table shows the datafill specific to Network Wide Ring Again for table C7NETSSN. Only those fields that apply directly to Network Wide Ring Again are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table C7NETSSN (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
PCNAME		name of point code	Point Code Name. This field specifies a 1- to 16-character alphanumeric point code CLLI defined in Table C7RTESET that identifies a point code in the CCS7 network. Enter the name of the point code.
SSNAMES		see subfields	Subsystem Names and Numbers. This field consists of subfields SSNAME and SSNUMBER.

Network Wide Ring Again (continued)

Datafilling table C7NETSSN (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	SSNAME	subsystem name	Subsystem Name. This subfield specifies a pre-defined or user-defined 1- to 8-character subsystem name. Enter the subsystem name.
	SSNUMBER	2 to 255	Subsystem Number. This subfield specifies the subsystem number at this point code. Enter a value from 2 to 255.

Datafill example for table C7NETSSN

The following example shows sample datafill for table C7NETSSN.

MAP display example for table C7NETSSN

PCNAME	SSNAMES
FASTNETS1 (NETRAG 245) (INTERWRK 242) (NMS 244) \$	
FASTNETS3 (NETRAG 245) (INTERWRK 242) (NMS 244) \$	
FASTNETS2 (NETRAG 245) (INTERWRK 242) (NMS 244) \$	
FASTNETS6 (NETRAG 245) (INTERWRK 242) (NMS 244) \$	

Datafilling table C7LOCSSN

Table C7LOCSSN (CCS7 Local Subsystem) contains information for the local subsystem. Table C7LOCSSN includes traffic mix information (TFMI) requirements, replication information, an adjacent intermediate node translator list (ADJTRANSNODES), and a concerned node list (PCNAMES).

The following table shows the datafill specific to Network Wide Ring Again for table C7LOCSSN. Only those fields that apply directly to Network Wide

Network Wide Ring Again (continued)

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

Datafilling table C7LOCSSN (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
SSNAME		subsystem name	Subsystem Name. This subfield specifies one of the pre-defined or user-defined 1- to 8-character subsystem names. Enter the subsystem name.
SSNUMBER		2 to 255	Subsystem Number. This subfield specifies the subsystem number at this point code. Enter a value from 2 to 255.
MININST		1 to 32	Minimum Number of Instances. This field specifies the minimum number of instances of a local subsystem that must be available (in service) to provide normal service. Enter a value from 1 to 32.
REPLINFO		see subfields	Replication Information. This field consists of subfields REPL_FLAG and PC_NAME.
	REPL_FLAG	Y or N	Replication Flag. This subfield specifies whether there is a replicated subsystem for the local subsystem. Enter Y or N. Note: If REPLINFO is set to Y, subfield PC_NAME requires datafill.
	PC_NAME	point code name	Point Code Name. This subfield specifies the CLLI of the replicated subsystem in the CCS7 network. Enter the point code name.
TFMI		see subfields	Traffic Mix Information. This field consists of subfields TFMI and ADJTRANSNODES.
	TFMI	Y or N	Traffic Mix Information Flag. This subfield specifies whether traffic mix information is required by the local subsystem. Enter Y or N. Note: If TFMI is set to Y, subfield ADJTRANSNODES requires datafill.

Network Wide Ring Again (continued)

Datafilling table C7LOCSSN (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
PCNAMES	ADJTRANSN	adjacent intermediate node translator list	Adjacent Intermediate Node Translator List. This subfield specifies a vector of eight point code names which are adjacent. Enter the adjacent intermediate node translator list.
	ODES	PC name(s)	Concerned Node List. This field specifies a vector of up to 64 PC names. It is a list of nodes that are informed of status changes at the local subsystem. Enter the PC name(s).

Datafill example for table C7LOCSSN

The following example shows sample datafill for table C7LOCSSN.

MAP display example for table C7LOCSSN

SSNAME	SSNUMBER	MININST	REPLINFO	TFMI
				PCNAMES
NETRAG	245	1	N	
				N
				\$

Datafilling table CUSTNTWK

Table CUSTNTWK (Customer Network) provides the operating company client with the ability to specify a network name (NETNAME) with which a customer group is associated. It also provides a predetermined global numeric identifier (NETCGID) within the specified NETNAME that is used for the customer group throughout the network. Table CUSTNTWK enables the operating company client to assign calling features to customer groups.

Table CUSTNTWK associates a network name with a customer group and assigns a global numeric ID for the group throughout the network. Network RAG must first be assigned to this table.

The following table shows the datafill specific to Network Wide Ring Again for table CUSTNTWK. Only those fields that apply directly to Network Wide

Network Wide Ring Again (continued)

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

Datafilling table CUSTNTWK (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		NTWKRAG	Options. This field assigns the network RAG option. Enter NTWKRAG. Note: If OPTIONS is set to NTWKRAG, subfields TIMEOUT, ORIGDUR, ORIGRTY, TERMDUR, TERMGRD, TERMQAD, and NETOPT require datafill.
	TIMEOUT	10 to 60 or leave blank	Timeout. This subfield specifies the time, in 1-second intervals, that ringing is applied to alert a line with Network RAG that the line that was busy is now idle. Enter a value from 10 to 60 or leave blank if time-out is not required.
	ORIGDUR	5 to 30	Originator Duration Timeout. This subfield specifies the time, in 1-minute intervals, that the Network Ring Again request at the originating switch remains active. Enter a value from 5 to 30.
	ORIGRTY	2 to 10	Originator Retry Timeout. This subfield specifies the time, in 1-second intervals, that the originator waits after sending out a TCAP QUERY message before either sending out another or terminating the attempt. Enter a value from 2 to 10.
	TERMDUR	5 to 31	Terminator Duration Timeout. This subfield specifies the time, in 1-minute intervals, that the Network Ring Again request remains active at the terminating switch. This timeout value must be greater than the value in field ORIGDUR. Enter a value from 5 to 31.
	TERMGRD	1 to 6	Terminator Guard Timeout. This subfield specifies the time, in 1-second intervals, to wait before ringing is applied to a line to indicate that the line that was busy is idle. Enter a value from 1 to 6.

Network Wide Ring Again (continued)

Datafilling table CUSTNTWK (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	TERMQAD	5 to 40	Terminator Queue Advance Timeout. This subfield specifies the time, in 1-second intervals, that the terminator's switch waits before sending messages to different originators that the line is now free. Enter a value from 5 to 40.
	NETOPT	ONNET, OFFNET, INTRAGRP	Network Options. This subfield specifies the network options. Enter ONNET to indicate that NTKWRAG is available only to those terminating agents that have the same network as the originating agent. Enter OFFNET to indicate that NTKWRAG is available to all terminating agents. Enter INTRAGRP to indicate that NTKWRG is available only to those terminating agents that are in the same customer group as the originating agent.

Datafill example for table CUSTNTWK

The following example shows sample datafill for table CUSTNTWK.

MAP display example for table CUSTNTWK

CUSTNAME	NETNAME	NETCGID	DNREVXLA	OPTIONS
MS1LBR2	ISUPIBNNET	4		
				\$
	(NTWKRA	10 30 5 31 2 30	ONNET)	(CLID OFFNET) \$
NETWORK	NETWORK	99		
				\$
	(NTWKRA	30 30 5 31 2 30	ONNET)	(CLID OFFNET) \$
RESGRP	REAGRP	5		
				\$
	(RESGRP	RESAR 10)		\$
	(NTWKRA	10 30 5 31 2 30	ONNET)	(CLID OFFNET)\$

Network Wide Ring Again (continued)

Datafilling table CUSTSTN

Table CUSTSTN (Customer Group Station Option) contains the station options assigned to each of the customer groups.

Table CUSTSTN datafills the value of timer T2, which specifies the length of the RAG recall. Timer T2's value (datafilled under option RAGTIM) is equal to the maximum length of time that the caller is notified when the called party has become idle and can be redialed.

A default value of 8 seconds is stored internally. This option is not displayed in the table unless datafill is specified.

The following table shows the datafill specific to Network Wide Ring Again for table CUSTSTN. Only those fields that apply directly to Network Wide Ring Again are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table CUSTSTN

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		customer group name	Customer Group Name. This field specifies the 1- to 16-character alphanumeric name which is assigned to the customer group. Enter the customer group name.
OPTNAME		RAGTIM	Option Name. This field specifies the ring again timer option. Enter RAGTIM.
OPTION		see subfields	Option. This field consists of subfields OPTION and RAGRECTO.
	OPTION	RAGTIM	Option Name. This subfield specifies the ring again timer option. Enter RAGTIM.
	RAGRECTO	9 to 32	Ring Again Recall Timeout. This subfield specifies the time, in 1-second intervals, that Ring Code 4 is to be applied to alert a line with RAG, that the called party who was busy, is now idle. Enter a value from 9 to 32.
	RAGCANTO	0 to 30	Ring Again Cancellation Timeout. This subfield specifies the time, in one-minute intervals, that the nodal Ring Again request is to remain active. Enter a value from 0 to 30.

Network Wide Ring Again (end)

Datafill example for table CUSTSTN

The following example shows sample datafill for table CUSTSTN.

MAP display example for table CUSTSTN

CUSTNAME	OPTNAME	OPTION		
MS1LBR2	RAGTIM	RAGTIM	8	0

Translation verification tools

Network Wide Ring Again does not use translation verification tools.

SERVORD

Network Wide Ring Again does not use SERVORD.

Networked EBS Display

Ordering codes

Functional group ordering code: MDC00006

Functionality ordering code: does not apply

Release applicability

BCS25 and later versions

Requirements

Networked EBS Display has the following requirements:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC MBS Minimum, MDC00007
- SS7 Trunk Signaling, SS700001
- MDC Standard, MDC00003
- TEL CCS7 Base, TEL00008

Description

Networked EBS Display provides address information across a public network and between networks. An end user with a Meridian business set (MBS) with display can view the address of the following:

- calling party
- called party
- connected party
- redirecting party

Address information is available for features like the following:

- a normal line-to-line call
- Call Waiting (CWT)
- Call Pickup (CPU)
- Call Transfer (CXR)
- Call Forwarding (CFX)

Networked EBS Display can occur through information exchange over a public network with the common channel signaling 7 (CCS7) protocol. This ability was available for a single node.

Networked EBS Display (continued)

Operation

This feature can display the number of the following:

- the calling party
- the called party
- the connected party
- the redirecting party

The type of call determines the number that appears. If a feature like CFX redirect the call, Networked EBS Display displays the directory number (DN) of the party. The system redirects this call to this party or from this party.

Each display element in an MBS with display contains two lines. The upper line displays the DN of the calling or called party. The DN of the redirected party follows the DN. The lower line displays the dialed digits. The information in the upper line overflows to the lower line if enough space is not present in the upper line. When this event occurs, the lower line does not display dialed digits.

Option NUMDGCMP in table CUSTSTN (Customer Group Station Option) determines if an MBS displays the DN of the connected party. The system receives this DN through a CCS7 network. The software on an MBS compares the last N digits of the dialed number to the connected number. In the connected number, N appears in table CUSTSTN. If the numbers are not the same, an MBS displays the connected number.

Translations table flow

Networked EBS Display does not affect translations table flow.

Limits

The following limits apply to Networked EBS Display:

- Networked EBS Display exchanges address information across a public CCS7 network. This display does not associate with any CCS7 ISDN user part (ISUP) protocol definition for feature access.
- Networked EBS Display exchanges address information for selected features. These features include normal line-to-line call, CWT, CPU, CXR, and CFX.
- Networked EBS Display does not support private networks, like the electronic switch network (ESN).
- Networked EBS Display only supports MBSs with display.

Networked EBS Display (continued)

- The CCS7 network display information is not always available to the switching office. If the information is not available, the display on an MBS displays the single-node display for trunk access.
- Assign Option CLID in table CUSTNTWK (Customer Group Network) to the customer group of the originating line or the terminating line. The assignment of option CLID does not always occur. If assignment does not occur, the display on an MBS defaults to the current display for trunk access.
- For calls with interworking, exchange of the number to display does not occur. Single-node display software provides display information.

Interactions

Networked EBS Display does not have functionality interactions.

Activation/deactivation by the end user

Networked EBS Display does not require activation or deactivation by the end user.

Billing

Networked EBS Display does not affect billing.

Station Message Detail Recording

Networked EBS Display does not affect Station Message Detail Recording.

Datafilling office parameters

Networked EBS Display does not affect office parameters.

Datafill sequence

The tables that require datafill to implement Networked EBS Display appear in the following table. The tables appear in the correct entry order.

Datafill requirements for Networked EBS Display

Table	Purpose of table
CUSTSTN	Customer Group Station Option. This table contains the station options assigned to each customer group.

Datafilling table CUSTSTN

Table CUSTSTN (Customer Group Station Option) contains the station options assigned to each customer group. Networked EBS Display adds option NUMDGCMP to Table CUSTSTN. An MBS with display uses option

Networked EBS Display (continued)

NUMDGCMP. This option determines if the system can present the DN of the connected party received through a CCS7 network call. The system presents the DN on an MBS with display.

Datafill for for table CUSTSTN appears in the following table. The fields that apply to Networked EBS Display appear in this table. See the data schema section of this document for a description of the other fields.

Datafilling table CUSTSTN

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		alphanumeric	Customer Group Name. This field specifies the 1-character to 16-character alphanumeric name assigned to the customer group. Enter the customer group name.
OPTNAME		NUMDGCMP	Option Name. This field specifies the name of the option. Enter NUMDGCMP.
OPTION		see subfields	Option. This field contains subfields OPTION and NUMDIGCMP.
	OPTION	NUMDGCMP	Option. This subfield specifies the name of the option. Enter NUMDGCMP.
	NUMDIGCMP	0 to 10	Number of Digits Compared. This subfield specifies the number of trailing digits the system uses to compare the dialed number and the connected number. The connected number appears on an MBS if the numbers are not the same. Enter a value of 0 to 10. A value of 0 does not result in a comparison and the connected number always appears.

Datafill example for table CUSTSTN

Sample datafill for table CUSTSTN appears in the following example.

MAP example for table CUSTSTN

CUSTNAME	OPTNAME	OPTION	
MDCGRP1	NUMDGCMP	NUMDGCMP	7

Networked EBS Display (end)

Tools for verifying translations

Networked EBS Display does not use translation verification tools.

SERVORD

Networked EBS Display does not use 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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