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DMS-100 Family

North American DMS-100

Translations Guide Volume 15 of 20

Meridian Digital Centrex (MDC) Part 5 of 6

LEC0015 and up Standard 14.02 May 2001

NORTEL NETWORKS™

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Emergency Services

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1 Datafilling MDC PRO (continued)

The following chapter describes the MDC PRO, MDC00009, functionality.

ESN - Detail Record

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS20 and up

Prerequisites

To operate, ESN Detail Record has the following prerequisites:

- BAS Generic, BAS00003
- MDC PRO, MDC00009
- MDC Minimum, MDC00001

Description

CCSA VFG Option provides the operating company with the ability to assign a common control switching arrangement (CCSA) to a virtual facility group (VFG). A CCSA consists of operating company switching facilities that are connected to leased corporate tie-line networks. Common-control central-office switching equipment performs the switching functions for leased lines within the network, which allows all stations in the network to dial one another regardless of the distance and without using exchange or toll facilities. Stations can also dial outside the network by using local, foreign exchange, or wide area telephone service (WATS) lines.

CCSA VFG Option is used for billing purposes to identify the station as being a member of a CCSA network. Assigning the CCSA option to a VFG causes a detailed Automatic Message Accounting (AMA) record to be generated. This AMA record is uniquely identified with a call code of 021. An 021 AMA record is produced only when no other billing requirements exist for the call.

Operation

Operation of CCSA VFG Option is transparent to the end user and is accomplished solely through datafill.

Translations table flow

CCSA VFG Option does not affect translations table flow.

ESN - Detail Record (continued)

Limitations and restrictions

The following limitations and restrictions apply to ESN Detail Record:

- CCSA VFG Option is applicable only to incoming MDC VFGs.
- The operating company is responsible for determining which VFGs are members of the CCSA network. The DMS switch makes no determination as to which VFGs are members of the CCSA network based on either the digits dialed or the terminating facility.
- The CCSA option takes precedence over the call detail recording (CDR) option when both options are assigned to a VFG.

Interactions

ESN Detail Record has no functionality interactions.

Activation/deactivation by the end user

ESN Detail Record requires no activation or deactivation by the end user.

Billing

ESN Detail Record does not affect billing.

Station Message Detail Recording

ESN Detail Record does not affect Station Message Detail Recording.

Datafilling office parameters

ESN Detail Record does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement ESN Detail Record. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for ESN Detail Record

Table	Purpose of table
VIRTGRPS	Virtual Facility Groups Table. This table contains a mechanism to eliminate loop-around trunks.
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.
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.	

ESN - Detail Record (continued)

Datafilling table VIRTGRPS

Table VIRTGRPS (Virtual Facility Groups) contains a mechanism to eliminate loop-around trunks. Loop-around trunks are used to implement IBN Inward Wide Area Telephone Service (INWATS) and Outward Wide Area Telephone Service (OUTWATS) and to provide equal access capabilities.

The following table shows the datafill specific to ESN Detail Record for table VIRTGRPS. Only those fields that apply directly to ESN Detail Record are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table VIRTGRPS

Field	Subfield or refinement	Entry	Explanation and action
KEY		1- to 16-characters	Virtual Facility Group Key. This field specifies a 1- to 16-character name for the VFG. If this field is the first entry for the VFG, enter a user-defined name. If the entry is not the first entry for the VFG, leave this field blank.
DATA		see subfields	Data. This field consists of subfields VFGTYPE and INCTYPE.
	VFGTYPE	SIZE USES	Virtual Facility Group Type. If this is the first entry for the VFG, enter SIZE. If this is not the first entry, enter USES. If this subfield contains SIZE, datafill subfield SIZE. If this subfield contains USES, datafill subfield USESGRP.
	SIZE	0 to 2048	Size. This subfield specifies the number of simultaneous access allowed for this VFG. Enter a value from 0 to 2048.
	INCTYPE	IBN	Incoming Type. This subfield specifies the incoming type. Enter IBN.
OPTIONS		VFGAMA	Options. This field specifies the options assigned to the VFG. Enter VFGAMA.
If OPTIONS is set to VFGAMA, subfields OPTION and FACILITY require datafill.			
	OPTION	VFGAMA	Option. This subfield specifies the virtual facility group (VFG) automatic message accounting (AMA) option. Enter VFGAMA.
	FACILITY	CCSA	Facility. This subfield specifies the facility. Enter CCSA.

Datafill example for table VIRTGRPS

The following example shows sample datafill for table VIRTGRPS.

MAP display example for table VIRTGRPS

```
KEY                                          DATA
                                                 OPTIONS
_____________________________________________________________

IBNNTI   SIZE  4  IBN  6193516000    NTI 0 0  0 Y N N
                                        ( VFGAMA CCSA)$
```

Translation verification tools

ESN Detail Record does not use translation verification tools.

SERVORD

Option CCSA is assigned using the Service Order System (SERVORD) command ADO (add option). Option CCSA allows all stations in a CCSA to dial one another regardless of distance and without using exchange or toll facilities.

SERVORD limitations and restrictions

ESN Detail Record has no SERVORD limitations and restrictions.

SERVORD prompts

The following table shows the SERVORD prompts used to assign ESN Detail Record to an existing line.

SERVORD prompts for ESN Detail Record

Prompt	Valid input	Explanation
DN_OR_LEN	7-digit DN or LEN	Specifies the 7-digit DN or LEN of the line to be changed. Enter the DN or LEN.
OPTION	CCSA	Indicates the name of the option. Enter CCSA.
Note: Table IBNLINES is automatically datafilled when the CCSA VFG Option is assigned using SERVORD.		

SERVORD example for implementing ESN Detail Record

The following SERVORD example shows how ESN Detail Record is assigned to an existing line using the ADO command.

ESN - Detail Record (end)

SERVORD example for ESN Detail Record in prompt mode

```
SO:
> ADO
SONUMBER:    NOW 87 10 10 PM
>
DN_OR_LEN:
> 6211011
OPTION:
> CCSA
OPTION:
> $
```

SERVORD example for ESN Detail Record in no-prompt mode

```
>ADO  $  6211011  CCSA  $
```

ESN - Network ARS (TEHO and HEHO)

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS13 and up

Prerequisites

To operate, ESN - Network ARS (TEHO and HEHO) has the following prerequisites:

- BAS Generic, BAS00003
- MDC PRO, MDC00009

Description

The electronic switched network (ESN) is a business communications network consisting of a number of nodes that are interconnected through dedicated links. These nodes can be all DMS-100 class 5 switches with IBN software, or can be any combination of DMS-100 IBN, SL-100, and SL-1 switches. The nodes have access to the public network and possibly to SCCs. The various ESN, DDD, and SCC interconnections available to the network offer many possible choices for completing calls dialed by the network users.

The ESN - Network Automatic Route Selection (TEHO and HEHO) (NARS) feature provides for an effective use of available network resources through the use of routing strategies, such as the following:

- Tail-end/head-end hop off (TEHO/HEHO)—allows the call to hop off the IBN network and be routed by the public network or by an SCC.
  - Head-end hop off—On-net or off-net calls can be routed by the public network from the originating node.
  - Tail-end hop off—Off-net calls, or on-net calls that cannot be routed entirely on-net, can also hop off the network at a node other than the originating node.
- Access to SCC—Both directly-connected and dial-access common carriers can be specified as route choices.

ESN - Network ARS (TEHO and HEHO) (continued)

- Time-of-day (TOD) routing—In order to provide the most cost-effective routing, ESN route lists must allow variable routing as a function of time of day. Refer to “ Time of Day Routing" for more details.
- Alternate route on overflow (ARO)—Once a route has been chosen from the originating node, the call may encounter blocking at a subsequent node, on or off the network. If the originating node is equipped with tone detectors, it can detect this condition and attempt the next route in the route list.

ESN NARS provides a tool for implementing least-cost routing schemes in the network. The route selected to complete a call is transparent to the caller. The selected route can use any suitable combination of on-net and off-net facilities and is not directly dependent on digits dialed.

The particular routing strategies of each node are defined in the datafill for the node. Thus, the routing strategy for each node can be individually implemented in order to reflect that node's particular position in the network.

Operation

To access the ESN, the end user dials the ESN access code. Second dial tone is optional following the access code. Following the access code, the end user can dial

- a seven digit on-net number (usually a three-digit location code and a four-digit extension number)
- a three-digit location code and a 0, to reach an attendant at another location
- an NPA and any seven-digit directory number (toll call)
- a 0 or 0 plus a ten-digit directory number (operator-assisted call)
- a 1 plus a ten-digit directory number, in cases where the three-digit location codes are ambiguous with NPAs or where end users are accustomed to dialing the digit 1

Translations table flow

ESN - Network ARS (TEHO and HEHO) does not affect translations table flow.

ESN - Network ARS (TEHO and HEHO) (continued)

Limitations and restrictions

The following limitations and restrictions apply to ESN - Network ARS (TEHO and HEHO):

- Operator-assisted (0+) ESN calls are routed to an operator position at the point at which they hop off the IBN network. These calls are not suitable for routing by SCC.
- When ARO occurs, any SMDR of LAMA blocks associated with the call should be processed as though a disconnect had occurred because the route on which overflow occurred may be billable.

Interactions

The following paragraphs describe the interactions between ESN - Network ARS (TEHO and HEHO) and other functionalities.

The ESN - Network ARS (TEHO and HEHO) feature interacts with other IBN features as indicated in the following list:

- In most cases, LAMA records are inappropriate for ESN calls because although they are translated as POTS calls, there is a high probability that they will be routed on-net.
- In an SL-1 office, LAMA does not apply.

Activation/deactivation by the end user

ESN - Network ARS (TEHO and HEHO) requires no activation or deactivation by the end user.

Billing

ESN - Network ARS (TEHO and HEHO) does not affect billing.

Datafilling office parameters

ESN - Network ARS (TEHO and HEHO) does not affect office parameters.

ESN - Network ARS (TEHO and HEHO) (continued)

Datafill sequence

The following table lists the tables that require datafill to implement ESN - Network ARS (TEHO and HEHO). The tables are listed in the order in which they are to be datafilled.

Datafill tables required for ESN - Network ARS (TEHO and HEHO)

Table	Purpose of table
XLANAME	List of Translator Names. This table stores the default data for each translator. Table XLANAME must be datafilled to define the name of the preliminary translator to be used by the ESN - Network ARS (TEHO and HEHO) feature.
NCOS	Network Class of Service. This table contains network class of service (NCOS) numbers that are assigned to attendant consoles, IBN or Subscriber Services (RES) stations, incoming sides of two-way IBN trunk groups, authorization codes, and customer groups. Table NCOS must be datafilled to define the NCOS associated with ESN NWARS.
TRKGRP	Trunk Group. This table contains some of the customer-defined data associated with each trunk group existing in the switching unit. Table TRKGRP must be datafilled to define the IBN trunks used by the ESN - Network ARS (TEHO and HEHO) feature.
IBNRTE	IBN Route. This table contains route lists identified by a route reference index number. Table IBNRTE must be datafilled to define the automatic route selection sequence for ESN.
IBNXLA	IBN Translation. This table stores the data for the digit translation of calls from an IBN station, attendant console, or incoming side of a two-way IBN trunk group. Table IBNXLA must be datafilled to define the preliminary translator (defined in Table NCOS) used for outgoing ESN calls.
COSDATA	Network Class of Service Data. This table contains the mapping and screening data for each mapping in Table COSMAP. Table COSDATA must be datafilled to ensure that the mapping and screening data for each mapping defined in Table COSMAP are defined.
COSMAP	Network Class of Service Mapping. This table allows flexible screening and mapping of network class of service values in an ESN switch. Table COSMAP must be datafilled to define the class of service mapping for each signaling format.
DIGMAN	Digit Manipulation. This table contains information to define the appropriate digit manipulation.

Datafilling table XLANAME

Table XLANAME (List of Translator Names) stores the default data for each translator. When no access code is found in Table IBNXLA for a particular

translator, default data from Table XLANAME is used. If there is no default data for the translator, the treatment specified in field VACTRMT of Table CUSTHEAD is used.

Table XLANAME must be datafilled to define the name of the preliminary translator to be used by the ESN - Network ARS (TEHO and HEHO) feature.

The following table shows the datafill specific to ESN - Network ARS (TEHO and HEHO) for table XLANAME. Only those fields that apply directly to ESN - Network ARS (TEHO and HEHO) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table XLANAME

Field	Subfield or refinement	Entry	Explanation and action
XLANAME		alphanumeric	Translator name. This field specifies the name assigned to the customer, feature, or preliminary translator. Enter the 1 - 8 character name.
DEFAULT		see explanation	Default data. This field consists of the translation subfield selector TRSEL and refinement subfields, depending on this selector. It is identical to the RESULT field in Table IBNXLA. Enter $ for no default data.

Datafill example for table XLANAME

The following example shows sample datafill for table XLANAME.

MAP display example for table XLANAME

```
XLANAME                                                  DEFAULT
_________________________________________________________________
MDCXLA1                                                  $
```

Datafilling table NCOS

Table NCOS (Network Class of Service) contains network class of service (NCOS) numbers that are assigned to attendant consoles, IBN or Subscriber Services (RES) stations, incoming sides of two-way IBN trunk groups, authorization codes, and customer groups. Table NCOS must be datafilled to define the NCOS associated with ESN NWARS.

The following table shows the datafill specific to ESN - Network ARS (TEHO and HEHO) for table NCOS. Only those fields that apply directly to ESN -

ESN - Network ARS (TEHO and HEHO) (continued)

Network ARS (TEHO and HEHO) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table NCOS

Field	Subfield or refinement	Entry	Explanation and action
NCOSOPTN		XLAS	Network class of service options. This field specifies a vector of up to 17 option entries for the NCOS number. Enter XLAS.
	PRELMXLA	alphanumeric	Preliminary translator. This subfield specifies the name of the preliminary translator. Enter the preliminary translator name.
	FEATXLA	alphanumeric	Feature translator. This subfield specifies the name of the feature translator if unique to the NCOS. Enter 1 to 8 characters for the feature translator name. If the feature translator name for the NCOS is the same as defined in Table CUSTHEAD, enter NXLA .
	DGCOLNM	alphanumeric	Digit collection name. This subfield specifies the name of the digit collection if unique to the NCOS. Enter 1 to 8 characters for the digit collection name. If the digit collection name for the NCOS is the same as defined in Table CUSTHEAD, enter NDGT.

Datafill example for table NCOS

The following example shows sample datafill for table NCOS.

MAP display example for table NCOS

```
CUSTGRP   NCOS   NCOSNAME   LSC   TRAFSNO        OPTIONS
_____________________________________________________________
MDCGRP1   1      UNREST     0     0    XLAS MDCXLA1 NXLA NDGT
```

Datafilling table TRKGRP

Table TRKGRP (Trunk Group) contains some of the customer-defined data associated with each trunk group existing in the switching unit. Table TRKGRP must be datafilled to define the IBN trunks used by the ESN - Network ARS (TEHO and HEHO) feature.

The following table shows the datafill specific to ESN - Network ARS (TEHO and HEHO) for table TRKGRP. Only those fields that apply directly to ESN -

Network ARS (TEHO and HEHO) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table TRKGRP

Field	Subfield or refinement	Entry	Explanation and action
GRPKEY		GRPTYP	Group key. This field consists of several subfields. The subfield affecting ESN - Network ARS (TEHO and HEHO) is GRPTYP.
	GRPTYP	IBNTO	Trunk Group Type. This subfield specifies the trunk group type. Enter IBNTO for IBN outgoing calls.

Datafill example for table TRKGRP

The following example shows sample datafill for table TRKGRP.

MAP display example for table TRKGRP

```
      GRPKEY                                        GRPINFO
_____________________________________________________________
MDCGRP1PVTN
        IBNTO 0 NPDGP NCRT MDCGRP1 0 MIDL ANSDISC 0 N 0 0
                                   0 0 N N N N N N NATL $
```

Datafilling table IBNRTE

Table IBNRTE (IBN Route) contains route lists identified by a route reference index number. Table IBNRTE must be datafilled to define the automatic route selection sequence for ESN. This is the table into which Table IBNXLA routes translations. A route list comprises one to eight elements linked together. If one route is busy or no idle trunk is available, the system advances to the next element in the list. Also, lists can route to other route lists.

The following table shows the datafill specific to ESN - Network ARS (TEHO and HEHO) for table IBNRTE. Only those fields that apply directly to ESN -

ESN - Network ARS (TEHO and HEHO) (continued)

Network ARS (TEHO and HEHO) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table IBNRTE (Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
RTE		0 to 1023	Route reference index. This field specifies the route reference number assigned to the routelist.
RTELIST		see subfields	Route list. This field consists of subfields IBNRTSEL, OHQ, CBQ, and EXP.
	IBNRTSEL	S, CND, N and QH	IBN route selector. This subfield specifies the route selectors required for the ESN - Network ARS (TEHO and HEHO). Enter S, CND, N and QH.
If IBN route selector is set to S, subfields OHQ, CBQ, EXP, MBG, CLLI, and CONTMARK require datafill.			
	OHQ	Y or N	Off-hook queuing. This subfield specifies if off-hook queuing applies to this route. Enter Y, if off-hook queuing applies, otherwise enter N.
	CBQ	Y or N	Call back queuing. This subfield specifies if call back queuing applies to this route. Enter Y, if call back queuing applies, otherwise enter N.
	EXP	Y or N	Expensive. This subfield specifies if this route is an expensive route. Enter Y, if this route is expensive, otherwise enter N.
	MBG	Y or N	Multi Switch Business Group. This subfield specifies if Multi Switch Business Group applies to this route. Enter Y, if MBG applies, otherwise enter N.
	CLLI	alphanumeric	Common Language Location Identifier. This subfield specifies the name assignment in Table CLLI for each tone, announcement, or trunk that translations is routing. Enter the name in Table CLLI to which translations is to route.
	CONTMARK	+ or $	Continuation Mark. This subfield specifies if the route is to continue to the next element or line, or if it is the end of the route. Enter a plus (+) to continue or a dollar sign ($) to indicate the end of the route.

ESN - Network ARS (TEHO and HEHO) (continued)

Datafilling table IBNRTE (Sheet 2 of 4)

Field	Subfield or refinement	Entry	Explanation and action
If IBN route selector is set to N, subfields OHQ, CBQ, EXP, MBG, CLLI, and CONTMARK require datafill.			
	OHQ	Y or N	Off-hook queuing. This subfield specifies if off-hook queuing applies to this route. Enter Y, if off-hook queuing applies, otherwise enter N.
	CBQ	Y or N	Call back queuing. This subfield specifies if call back queuing applies to this route. Enter Y, if call back queuing applies, otherwise enter N.
	EXP	Y or N	Expensive. This subfield specifies if this route is an expensive route. Enter Y, if this route is expensive, otherwise enter N.
	MBG	Y or N	Multi switch business group. This subfield specifies if Multi Switch Business Group applies to this route. Enter Y, if MBG applies, otherwise enter N.
	CLLI	alphanumeric	Common language location identifier. This subfield specifies the name assignment in Table CLLI for each tone, announcement, or trunk that translations is routing. Enter the name in Table CLLI to which translations is routed.
	DMI	0 to 32 767	Digit manipulation index. This subfield specifies the digit manipulation index to access Table DIGMAN to change the digits to be outpulsed. Enter a value from 0 to 32 767.
	CONTMARK	+ or $	Continuation mark. This subfield specifies if the route is to continue to the next element or line, or if it is the end of the route. Enter a plus (+) to continue or a dollar sign ($) to indicate the end of the route.
If IBN route selector is set to CND, subfield CNDSEL, requires datafill.			

ESN - Network ARS (TEHO and HEHO) (continued)

Datafilling table IBNRTE (Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	CNDSEL	TOD or COSMAP	Condition selector. This subfield specifies the route selector for conditional routes. The conditions for ESN - Network Automatic Route Selection (TEHO and HEHO) are time of day and network class of service. Enter TOD for the time of day condition or COSMAP for the network class of service condition.
If CNDSEL is set to TOD, subfields TODNAME, TIMES, and RTETYPE require datafill.			
	TODNAME	alphanumeric	Time of day name. This subfield specifies the name in Table TIMEODAY, when translations requires routing based on the time of day. The Table TODHEAD specifies the TODNAME before the reference in this table. Enter a 1 to 8 character name.
	TIMES	0 to 9, A to F	TIMES. This subfield specifies the index to Table TIMEODAY to assign the time range for calls to transfer to another route list or element. The Table TODHEAD specifies the time ranges before the reference is made in this table. Enter a value 0 to 9, A to F.
	RTETYPE	ST, SK, OR T	Route type. This subfield specifies for the CND route selector route types ST, SK, or T. The route type ST allow calls to skip to another route list within the same table. The route type SK allows calls to skip a number of elements within the same route list, or the route type T, transfers calls to a route list in another table, based on whether the call meets a certain condition. Enter a route type ST, SK, OR T.
If RTETYPE is set to ST, subfield RTEREF requires datafill.			
	RTEREF	1 to 1023	Route reference. This subfield specifies a route reference number to transfer the calls to, when a specific condition is met. Enter the route reference number 1 to 1023. The route reference is a higher value in the Table IBNRTE.
If RTETYPE is set to SK, subfield SKIPNUM requires datafill.			

ESN - Network ARS (TEHO and HEHO) (continued)

Datafilling table IBNRTE (Sheet 4 of 4)

Field	Subfield or refinement	Entry	Explanation and action
	SKIPNUM	0 to 7	Skip number. This subfield specifies the number of elements to skip within the same route list to complete the translations. Enter a value 0 to 7.
If RTETYPE is set to T, subfields TABNAME, INDEX, and CONTMARK requires datafill.			
	TABNAME	OFRT, IBNRTE, OFR2, OFR3, OFR4, IBNRT2, IBNRT3, or IBNRT4	Table name. This subfield specifies the table name that translations is to route. Enter OFRT, IBNRTE, OFR2, OFR3, OFR4, IBNRT2, IBNRT3, or IBNRT4.
	CONTMARK	+ or $	Continuation mark. This subfield specifies if the route is to continue to the next element or line, or if it is the end of the route. Enter a plus (+) to continue or a dollar sign ($) to indicate the end of the route.
If CNDSEL is set to COSMAP, subfield COSMAP requires datafill.			
	COSMAP	alphanumeric	Network class of service mapping. This subfield specifies the class of service name in Table COSMAP which contains the class of service mapping to change the routing of calls based on class of service. Enter a name to index Table COSMAP.
If IBN route selector is set to QH, subfields OHQWT, and CONTMARK require datafill.			
	OHQWT	0 to 90	Off hook queuing waiting time. This subfield specifies the time in one second intervals the off hook queuing is to apply. Enter a value 0 to 90.
	CONTMARK	+ or $	Continuation Mark. This subfield specifies if the route is to continue to the next element or line, or if it is the end of the route. Enter a plus (+) to continue or a dollar sign ($) to indicate the end of the route.

Datafill example for table IBNRTE

The following example shows sample datafill for table IBNRTE.

ESN - Network ARS (TEHO and HEHO) (continued)

MAP display example for table IBNRTE

```
RTE                                                  RTELIST
_____________________________________________________________
25   S  N N N N   MDCGRP1PVTN                              +
    CND TOD  MDCG1TOD     1  ST  27                        +
     QH 30                                                 +
    CND TOD  MDCG1TOD     2  SK  1                         +
     N  N  Y  Y  N   CARRT1     2                          +
    CND COSMAP COS1  T  OFRT     2                         +
 27  N   N  N  Y  N   COMCAR1 2                            $
```

Datafilling table IBNXLA

Table IBNXLA (IBN Translation) stores the data for the digit translation of calls from an IBN station, attendant console, or incoming side of a two-way IBN trunk group.

Table IBNXLA must be datafilled to define the preliminary translator (defined in Table NCOS) used for outgoing ESN calls. The NET translation selector and the ESN network type should be used. This combination is used when the digit(s) dialed represent the ESN access code.

The following table shows the datafill specific to ESN - Network ARS (TEHO and HEHO) for table IBNXLA. Only those fields that apply directly to ESN - Network ARS (TEHO and HEHO) 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
RESULT		see subfields	Result. This field consists of several subfields. The subfields that affect ESN - Network Automatic Route Selection (TEHO and HEHO) are TRSEL, DGCOLNM, and NETTYPE.
	TRSEL	NET	Translation selector. This subfield specifies the translation selector. Enter NET.

Datafilling table IBNXLA (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	DGCOLNM	POTS	Digit collection name. This subfield specifies the name POTS that is assigned to the block of data in Table DIGCOL for digit collection for MDC lines. Enter POTS.
	NETTYPE	ESN	Network type. This subfield specifies the network type ESN. Enter ESN for electronic switching network.

Datafill example for table IBNXLA

The following example shows sample datafill for table IBNXLA.

MAP display example for table IBNXLA

```
KEY                                                    RESULT
_____________________________________________________________________
MDCG1XLA     8
                 NET  N  Y  N  1 N  POTS N  N  ESN N  12
```

Datafilling table COSDATA

Table COSDATA (Network Class of Service Data) contains the mapping and screening data for each mapping in Table COSMAP. Table COSDATA must be datafilled to ensure that the mapping and screening data for each mapping defined in Table COSMAP are defined.

The following table shows the datafill specific to ESN - Network ARS (TEHO and HEHO) for table COSDATA. Only those fields that apply directly to ESN

ESN - Network ARS (TEHO and HEHO) (continued)

- Network ARS (TEHO and HEHO) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table COSDATA

Field	Subfield or refinement	Entry	Explanation and action
COSMAP		alphanumeric	Mapping name. This field specifies the class of service mapping name that is required in Table COSMAP. Enter a 1 to 16 alphanumeric character name.
COS		0 to 255	Class of service. This field specifies the class of service value that is screened or altered. Enter a value 0 to 255.
RESULT		0 to 32767	Mapping result value. This field specifies the new class of service value when the original class of service passes screening. Enter a value 0 to 32767.

Datafill example for table COSDATA

The following example shows sample datafill for table COSDATA.

MAP display example for table COSDATA

```
 COSMAP     COS   RESULT
_____________________________________________________________
COS1         4        4
```

Datafilling table COSMAP

Table COSMAP (Network Class of Service Mapping) allows flexible screening and mapping of network class of service values in an ESN switch. The datafill defines a number of class of service (COS) mapping functions, each capable of screening and altering COS values. Table COSMAP must be datafilled to define the class of service mapping for each signaling format.

The following table shows the datafill specific to ESN - Network ARS (TEHO and HEHO) for table COSMAP. Only those fields that apply directly to ESN -

ESN - Network ARS (TEHO and HEHO) (continued)

Network ARS (TEHO and HEHO) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table COSMAP

Field	Subfield or refinement	Entry	Explanation and action
NAME		alphanumeric	Name. This field specifies the name of a class of service mapping. enter a1 to 16 alphanumeric character name.
MAX		0 to 255	Maximum value. This field specifies the maximum value for the NCOS mapping. Enter a value 0 to 255.
SCREEN		ALLOW, DISALLOW, or DEFAULT	Type of screening. This field specifies the type of screening that is done on the original NCOS. Enter ALLOW, DISALLOW, or DEFAULT. ALLOW specifies the NCOS listed in Table COSDATA for this mapping are allowed, the others are screened out. DISALLOW, specifies the NCOS values listed in Table COSDATA are not allowed, the others pass screening. DEFAULT specifies the screening result is always pass screening.
VALTYPE		SAME, ANYTHING, or CONST	Value type. This field specifies the restriction on mapping results in Table COSDATA. The value types are SAME, ANYTHING, or CONST (constant). The SAME value specifies that any NCOS value is changed by the mapping in Table COSDATA. The ANYTHING value, specifies all NCOS values are allowed. CONST value specifies only one NCOS value is allowed for the mapping results. This entry requires an NCOS value 0 to 255.

Datafill example for table COSMAP

The following example shows sample datafill for table COSMAP.

MAP display example for table COSMAP

```
NAME        MAX        SCREEN              VALTYPE
____________________________________________________
COS1        255        DEFAULT 3          ANYTHING
```

ESN - Network ARS (TEHO and HEHO) (continued)

Datafilling table DIGMAN

Table DIGMAN (Digit Manipulation) contains information to define the appropriate digit manipulation.

The following table shows the datafill specific to ESN - Network ARS (TEHO and HEHO) for table DIGMAN. Only those fields that apply directly to ESN - Network ARS (TEHO and HEHO) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table DIGMAN (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
DMIKEY		1 to 32 766	Digit manipulation key. This field specifies the digit manipulation key. Enter a digit from 1 to 32 766.
DMIDATA		see subfield	Digit manipulation data list. This field consists of subfield DIGCOM.
	DIGCOM	REM	Digit command. This subfield consists of the digit commands and subfields. Enter REM.
	REM	see subfields	Remove. This subfield consists of subfields REMCOUNT and CONTMARK for the remove digit command.
	REMCOUNT	0 to 15	Remove digits count. This subfield specifies the number of digits to remove from the digit string. Enter the number of digits from 0 to 15 to remove.
	CONTMARK	+ or $	Continuation mark. This subfield specifies that additional digit commands for the same DMIKEY is required in the next record. Enter a plus (+) for an additional record. If the record is the last for the specific DMIKEY, enter a dollar sign ($).
	DIGCOM	INC	Digit command. This subfield consists of the digit commands and subfields. Enter INC.
	INC	see subfields	Include. This subfield consists of subfields INCDIGS and CONTMARK for the include digit command.

Datafilling table DIGMAN (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	INCDIGS	numeric (1 to 15 digits)	Include digits. This subfield specifies the digits to include in the digit string. Enter the appropriate digits to include for outpulsing.
	CONTMARK	+ or $	Continuation mark. This subfield specifies that additional digit commands for the same DMIKEY is required in the next record. Enter a plus (+) for an additional record. If the record is the last for the specific DMIKEY, enter a dollar sign ($).

Datafill example for table DIGMAN

The following example shows sample datafill for table DIGMAN.

MAP display example for table DIGMAN

```
DMIKEY
                                                        DMIDATA
 ------------------------------------------------------------------
  2                                       (REM          896) +
                                          (INC       919555) $
```

Translation verification tools

ESN - Network ARS (TEHO and HEHO) does not use translation verification tools.

SERVORD

ESN - Network ARS (TEHO and HEHO) does not use SERVORD.

ESN - Network Class of Service

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS13 and up

Prerequisites

To operate, ESN - Network Class of Service has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The ESN - Network Class of Service feature allows flexible screening and mapping of class of service (COS) values in an electronic switched network (ESN). This feature allows for the definition of COS mapping functions. Each mapping function is capable of screening and/or altering COS values. The meaning of each mapping depends on the feature that uses it. This feature is applicable anytime requirements call for a change in an NCOS value.

Calls between the nodes of an ESN network carry ESN NCOS values that are encoded as part of the network signals. These NCOS values are used to determine call privileges for calls traversing the network.

The ESN - Network Class of Service feature was created to support several other IBN features. It is required only when any of the features that use this feature are present. For example, the network speed call and network information signals features both use this feature.

Operation

Incoming calls that use ESN proprietary signaling contain a one- or two-digit COS value in the inpulsed digits. This value is mapped (changed) into an appropriate IBN NCOS value before the call is processed. The same operation is reversed when an outgoing call uses ESN proprietary signaling: the IBN NCOS of the call is mapped into a one- or two-digit value for outpulsing to the next switch.

Each time an ESN caller dials a call that is completed using an ESN, the node on which the calling line terminates computes an ESN NCOS value to be associated with the call. If the call terminates in the network, when the final

node is reached, that node computes an IBN NCOS for the call based on the current ESN NCOS for the call.

Note: ESN NCOS values are not equivalent to IBN NCOS values. ESN NCOS values are determined by means of a mapping function that operates on the caller's IBN NCOS value.

Translations table flow

ESN - Network Class of Service does not affect translations table flow. .

Limitations and restrictions

The following limitation applies to ESN - Network Class of Service:

When options DISALLOW and ANYTHING are combined in Table COSMAP, it is treated as though it were options DISALLOW and SAME.

Interactions

ESN - Network Class of Service has no functionality interactions.

Activation/deactivation by the end user

ESN - Network Class of Service requires no activation or deactivation by the end user.

Billing

ESN - Network Class of Service does not affect billing.

Station Message Detail Recording

ESN - Network Class of Service does not affect Station Message Detail Recording.

Datafilling office parameters

ESN - Network Class of Service does not affect office parameters.

ESN - Network Class of Service (continued)

Datafill sequence

The following table lists the tables that require datafill to implement ESN - Network Class of Service. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for ESN - Network Class of Service

Table	Purpose of table
COSMAP	Network Class of Service Mapping. Table COSMAP allows flexible screening and mapping of network class of service values in an ESN switch. Datafill defines a number of class of service (COS) mapping functions, each capable of screening and altering COS values.
COSDATA	Network Class of Service Data. Table COSDATA contains the mapping and screening data for each mapping in Table COSMAP. Table COSDATA must be datafilled to ensure that the mapping and screening data for each mapping defined in Table COSMAP are defined.
Note: These tables must be datafilled to ensure that each class of service mapping is defined.	

Datafilling table COSMAP

Table COSMAP (Network Class of Service Mapping) allows flexible screening and mapping of network class of service values in an ESN switch. Datafill defines a number of class of service (COS) mapping functions, each capable of screening and altering COS values.

Table COSMAP must be datafilled to ensure that each class of service mapping is defined.

The following table shows the datafill specific to ESN - Network Class of Service for table COSMAP. Only those fields that apply directly to ESN - Network Class of Service are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table COSMAP (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
NAME		alphanumeric	Mapping name. Enter a 1 to 16 character name to identify a particular class of service mapping.
MAX		0 to 255	Maximum value. Enter the maximum result allowed for the mapping result. Valid range is 0 through 255.

Datafilling table COSMAP (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
SCREEN		ALLOW DISALLOW DEFAULT	Type of screening. Enter the type of screening done on the original NCOS by the mapping. DISALLOW means that the NCOS values that are datafilled in Table COSDATA for this mapping are disallowed.
VALTYPE		SAME ANYTHING CONST	Value type. Enter the restrictions on mapping results allowed in Table COSDATA. SAME means that no NCOS value is changed, ANYTHING means that all values are allowed, and CONST means that only a single value may be datafilled for all the mapping results in this mapping.

Datafill example for table COSMAP

The following example shows sample datafill for table COSMAP.

MAP display example for table COSMAP

```
NAME      MAX          SCREEN            VALTYPE
_____________________________________________________
NIL        0         DISALLOW              SAME
ACD        0         DISALLOW          ANYTHING
```

Datafilling table COSDATA

Table COSDATA (Network Class of Service Data) contains the mapping and screening data for each mapping in Table COSMAP. Table COSDATA must be datafilled to ensure that the mapping and screening data for each mapping defined in Table COSMAP are defined.

The following table shows the datafill specific to ESN - Network Class of Service for table COSDATA. Only those fields that apply directly to ESN -

ESN - Network Class of Service (end)

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

Datafilling table COSDATA

Field	Subfield or refinement	Entry	Explanation and action
COSMAP		alphanumeric	Mapping name. Enter the 1 to 16 character name which was used in Table COSMAP in field NAME.
COS		NCOS value	Class of service. Enter the NCOS value which is to be screened or altered.
RESULT		see explanation	Mapping result value. Enter the class of service value to which the original NCOS value is altered if the original NCOS passes screening.

Datafill example for table COSDATA

The following example shows sample datafill for table COSDATA.

MAP display example for table COSDATA

```
COSMAP            COS   RESULT
_____________________________________________________________
  ACD              0        0
```

Translation verification tools

ESN - Network Class of Service does not use translation verification tools.

SERVORD

ESN - Network Class of Service does not use SERVORD.

ESN - Network Information Signals

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS13 and up

Prerequisites

To operate, ESN - Network Information Signals has the following prerequisites:

- BAS Generic, BAS00003
- MDC PRO, MDC00009

Description

The electronic switched network (ESN) is Northern Telecom's network offering to business customers. It allows a business end user access to the ESN without attendant assistance. The ESN also provides compatibility with electronic tandem network (ETN) switches.

One of the major characteristics of the ESN is the network information signaling scheme. This signaling scheme is used in one of two ways:

- between switches equipped with the the ESN network information signaling feature
- within the private network of a customer.

Within the ESN there are two main entities, an ESN main and an ESN node. An ESN main can only originate and terminate ESN calls. It can perform no tandeming functions of ESN traffic. An ESN node is a switching unit that tandems the ESN calls from one main to another. A DMS-100 or SL-100 switch can perform as a main or a node. Some DMS-100 and SL-100 switches can perform the functions of both a main and a node. An SL-1 switch can perform only the functions of a node.

Operation

Calls between ESN mains and nodes, and between two ESN nodes, carry ESN network class of service (NCOS) values that are encoded as part of the network signals. These ESN NCOS values are used to determine call privileges for

ESN - Network Information Signals (continued)

calls traversing the network. See “ESN - Network Class of Service" for more information.

> ***Note:*** It is important to note that ESN NCOS values are not the same as IBN NCOS values. ESN NCOS values are determined by a mapping function that operates on the IBN NCOS value of the calling station.

There are sixteen possible ESN NCOS values (00 to 15). The main on which the call originates assigns an ESN NCOS to the call, which allows the call to use the network. The main on which the call terminates assigns an IBN NCOS to the call, based on the current ESN NCOS, which allows the call to terminate to a station. The call may have gone directly from one main to another. In this case, the original ESN NCOS is immediately translated back into an IBN NCOS in the terminating switch. However, the call may go through several nodes before terminating on the appropriate main. In this case, it is possible that the ESN NCOS changes each time it goes through a node.

There are five formats for ESN - Network Information Signals. Each of these formats is described below, along with probable uses of the format. (The plus sign (+) is used only for legibility. It is not actually included in the formats.)

- Format 1: Call Type + ESN NCOS + Called Number. This format is used for a standard network call. It is typically outpulsed by an ESN main to an ESN node in DTMF.
- Format 2: Call Type + TCOS (Traveling Class of Service) + Called Number. This format is used for a standard network call. It is typically outpulsed by an ESN node to an ESN main in DTMF.
- Format 3: Call Type + Subcall Type + Queue ID Number. This format is used only for coordinated call back queuing (CCBQ). This format is typically outpulsed by a main to the serving node in DTMF. The call and subcall types for this format are listed in the following table.

Call and subcall types for format 3

Call type	Subcall type	Resultant value
3	1	CCBQ allowed
3	2	CCBQ call back
3	3	CCBQ offer accepted

The serving node may offer CCBQ if no intermachine trunks (IMT) are available between it and the next node, which keeps the call from being completed. The serving node sends a wink back to the main, and the calling station is put in a coordinated call-back queue. When the blocked

IMT becomes available, the queued station is notified and the call is completed. Format 3 is also outpulsed by the serving node to the main, in DTMF, when an IMT becomes available to serve the main station's call-back queue request.

- Format 4: Call Type + Subcall Type + NCOS + Called Number. This format is used in two cases: if the end user is permitted CCBQ, or to limit the number of satellite links in a given connection. It is typically outpulsed by a main to a node, and between nodes. In the case of satellite link control, it is also outpulsed by a node to a main. The call and subcall types for this format are listed in the following table.

  Note: The NCOS referred to above is a TCOS when subcall type 2 is used.

Call and subcall types for format 4

Call type	Subcall type	Resultant value
4	1	Satellite NCOS
4	2	Satellite TCOS
4	3	Satellite CCBQ allow

  In the case of CCBQ, this format is outpulsed at call setup and identifies that the originating station is permitted CCBQ. If an outgoing trunk is not available at the node to complete the call, the node sends a wink to the main. If the station accepts the CCBQ, the main responds by sending format 3.

  In the case of satellite links, this format is outpulsed at call setup and tells the next node or main that a satellite trunk is already involved in the connection. Therefore, the next node or main should not use an outgoing satellite trunk to continue or complete the call.

- Format 5: Called Number 1 + TCOS. This format is used for a standard network call. It is typically outpulsed by one node to another node. It is also outpulsed by a node to a PBX. It may also be received by a node from a PBX. In this last case, the type of inpulsing can be DP or DTMF.

Translations table flow

ESN - Network Information Signals does not affect translations table flow.

ESN - Network Information Signals (continued)

Limitations and restrictions

The following limitations and restrictions apply to ESN - Network Information Signals:

- Both the CCBQ and network call transfer features use winks. If the call type is received for either, the DMS-100 or SL-100 switch does not send a wink for supplementary information. Basically, the DMS-100 or SL-100 switch processes the call type as a standard network call.
- If a DMS-100 or SL-100 switch is functioning as an originating main and receives a wink (format 3) from the node, call failure results. Treatment is given by the main. The forward connection is dropped. The main should not be datafilled to send CCBQ eligibility.
- If a DMS-100 or SL-100 switch is functioning as a terminating main and the inpulse type is DTMF, either DP or DTMF can be received if the trunk group is delay dial or wink start.
- MF outpulsing and inpulsing can be used by a DMS-100 or SL-100 switch but not for formats 3 or 4. MF is limited to 15 digits, including the KP (key pulse) and the ST (start signal).
- If the DMS-100 or SL-100 switch is outpulsing to an SL-1 switch, the interdigit time in the trunk subgroup data should be set to 200 ms. Otherwise, failure is the result.
- ESN signaling formats should not be sent into the public network. Depending on the interface into the public network, the DMS-100 or SL-100 switch can transmit the following to disable echo suppressors for data calls or to control satellite connections:
  - KP or KP2 signal
  - arbitrary conversion or insertion of a three-digit NPA-like code. The preceding are dependent on the interface to the public network and what the public network switch is arranged to handle. If the interface is on a trunk rather than a line basis, the class 4 or 5 switch can usually be arranged to handle the signaling format.
- Where the DMS-100 switch is serving as a combined POTS/IBN switch, the external NCOS is initially used for POTS calls. If the call is a DISA call, an authorization code is not required, and the call is to be routed through the ESN network, the IBN external NCOS must be mapped to an ESN NCOS or TCOS.

Interactions

The following paragraphs describe the interactions between ESN - Network Information Signals and other functionalities.

- Both inpulsed and outpulsed ESN - Network Information Signals are applicable to IBN trunk groups only.
- For fast call setup purposes, ESN - Network Information Signals is usually DTMF. However, the SL-1 switch is also capable of supporting DP for these formats. The DMS-100 and SL-100 switches are also capable of both DP and DTMF for ESN signaling formats. Additionally, the DMS-100 and SL-100 switches are capable of receiving and outpulsing the five formats in MF.

  Note: A maximum of 13 digits can be outpulsed in MF.

- Centralized attendant service and cut-through dialing are not supported.

Activation/deactivation by the end user

To activate the ESN, an end user dials the ESN access code, receives second dial tone, and dials a seven- or ten-digit ESN number.

Billing

ESN - Network Information Signals does not affect billing.

Station Message Detail Recording

ESN - Network Information Signals does not affect Station Message Detail Recording.

ESN - Network Information Signals (continued)

Datafilling office parameters

The following table shows the office parameters used by ESN - Network Information Signals. For more information about office parameters, refer to the *Office Parameters Reference Manual*.

Office parameters used by ESN - Network Information Signals

Table name	Parameter name	Explanation and action
OFCENG	MAXSTS	Specifies the maximum number of terminating partitions required for the serving translation system. Enter a value from 0 to 999. 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.

Datafill sequence

ESN - Network Information Signals has two applicable datafill sequences: one for calls outgoing on the ESN and one for calls incoming on the ESN. Both are explained in the following subsections. Where datafill tables are common to both outgoing and incoming calls, only one datafill procedure and datafill example is provided.

Outgoing ESN datafill

The following table lists the tables that require datafill to implement ESN - Network Information Signals for calls that are outgoing on the ESN. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for ESN - Network Information Signals (Sheet 1 of 2)

Table	Purpose of table
TRKGRP	Trunk Group. Table TRKGRP contains some of the customer-defined data associated with each trunk group existing in the switching unit. Table TRKGRP must be datafilled to define the IBN trunks used by the ESN - Network Information Signals feature, when outgoing over the ESN.
COSMAP	Network Class of Service Mapping. Table COSMAP allows flexible screening and mapping of network class of service values in an ESN switch. Datafill defines a number of class of service (COS) mapping functions, each top capable of screening and altering COS values. Table COSMAP must be datafilled to define the class of service mapping for each signaling format.

ESN - Network Information Signals (continued)

Datafill tables required for ESN - Network Information Signals (Sheet 2 of 2)

Table	Purpose of table
IBNRTE	IBN Route. Table IBNRTE contains route lists identified by a route reference index number. Table IBNRTE must be datafilled to define the route each ESN signaling format takes. Route selector N indicates that the digits outpulsed are not identical to the digits dialed. The actual digits to be prefixed or deleted are defined in Table DIGMAN (Digit Manipulation).
NCOS	Network Class of Service. Table NCOS contains network class of service (NCOS) numbers that are assigned to attendant consoles (AC), IBN or Subscriber Services (SS) stations, incoming sides of two-way IBN trunk groups, authorization codes, and customer groups. Table NCOS must be datafilled to define the NCOS associated with each ESN signaling format.
LINEATTR	Line Attribute. Table LINEATTR must be datafilled to ensure that the appropriate line attributes are assigned to the lines.
IBNXLA	IBN Translation. Table IBNXLA stores the data for the digit translation of calls from an IBN station, AC, or incoming side of a two-way IBN trunk group. For outgoing ESN calls, Table IBNXLA must be datafilled to define the preliminary translator (defined in Table NCOS). The NET translation selector and the ESN network type should be used. This combination is used when the digits dialed represent the ESN access code.
HNPACONT. RTEREF	Home NPA Route Reference. Table HNPACONT.RTEREF must be datafilled to define the IBN route information for outgoing ESN calls. The T route selector should be used to route the calls to Table IBNRTE.
HNPACONT. HNPACODE	Home NPA Code. Table HNPACONT.HNPACODE contains the route treatment or table to which translations must route for each of the 1000 three-digit codes (000 to 999) within each of the SNPAs or STSs assigned in Table HNPACONT. Table HNPACONT.HNPACODE must be datafilled to define the POTS route information for outgoing ESN calls. The LRTE (local route) selector should be used for this call type.
COSDATA	Network Class of Service Data. Table COSDATA contains the mapping and screening data for each mapping in Table COSMAP. Table COSDATA must be datafilled to ensure that the mapping and screening data for each mapping defined in Table COSMAP are defined.
DIGMAN	Digit Manipulation. Table DIGMAN must be datafilled to define the appropriate digit manipulation for each ESN signaling format.

ESN - Network Information Signals (continued)

Incoming ESN datafill

The following table lists the tables that require datafill to implement ESN - Network Information Signals for calls that are incoming on the ESN. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for ESN - Network Information Signals (Sheet 1 of 2)

Table	Purpose of table
COSMAP	Network Class of Service Mapping. Table COSMAP allows flexible screening and mapping of network class of service values in an ESN switch. Datafill defines a number of class of service (COS) mapping functions, each top capable of screening and altering COS values. Table COSMAP must be datafilled to define the class of service mapping for each signaling format.
NCOS	Network Class of Service. Table NCOS contains network class of service (NCOS) numbers that are assigned to attendant consoles (AC), IBN or Subscriber Services (SS) stations, incoming sides of two-way IBN trunk groups, authorization codes, and customer groups. Table NCOS must be datafilled to define the NCOS associated with each ESN signaling format.
IBNXLA	IBN Translation. Table IBNXLA stores the data for the digit translation of calls from an IBN station, AC, or incoming side of a two-way IBN trunk group. For incoming calls, Table IBNXLA must be datafilled with the PROTO translation selector. Datafill for subfield MINIDIGS, the minimum number of digits that must be collected to ensure that all the protocol digits are collected, depends on the following formats: • Format 1: Subfield MINDIGS = 3. This is calculated by adding the number of digits in subfield DGLIDX to the number of digits in a queued ID number (ESN NCOS). • Format 2: Subfield MINDIGS = 2. This is calculated by adding the number of digits in subfield DGLIDX to the number of digits in a TCOS. • Format 3: Subfield MINDIGS = 4. This is calculated by adding the number of digits in subfield DGLIDX to the number of digits in the ESN NCOS. • Format 4: Subfield MINDIGS = 3 or 4. This is calculated by adding the number of digits in subfield DGLIDX to the number of digits in an ESN NCOS or a TCOS, depending upon which is used. • Format 5: Subfield MINDIGS = 25. This is to ensure that the TCOS digit has been collected since the length of the called number is not fixed.
COSDATA	Network Class of Service Data. Table COSDATA contains the mapping and screening data for each mapping in Table COSMAP. Table COSDATA must be datafilled to ensure that the mapping and screening data for each mapping defined in Table COSMAP are defined.

Datafill tables required for ESN - Network Information Signals (Sheet 2 of 2)

Table	Purpose of table
CALLCHR	Call Characteristic. Table CALLCHR enables the telephone operating company to assign names (meanings) to call characteristics, and should be datafilled only if format 4 is the incoming signal format type.
PACMAN	IBN ESN Protocol Analysis and Code Manipulation. Table PACMAN is used to interpret the ESN call types and subcall types for incoming calls.

Datafilling table TRKGRP (outgoing)

Table TRKGRP (Trunk Group) contains some of the customer-defined data associated with each trunk group existing in the switching unit. Table TRKGRP must be datafilled to define the IBN trunks used by the ESN - Network Information Signals feature, when outgoing over the ESN.

The following table shows the datafill specific to ESN - Network Information Signals for table TRKGRP. Only those fields that apply directly to ESN - Network Information Signals are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table TRKGRP

Field	Subfield or refinement	Entry	Explanation and action
GRPINFO		see subfields	Group Information. This field contains many subfields. Subfields GRPTYP, IGA, and OPTION pertain to ESN - Network Information Signals.
	GRPTYP	IBNTO or IBNT2	Trunk Group Type. This subfield specifies the trunk group type. Enter IBNTO for trunk group type outgoing; enter IBNT2 for trunk group type two-way.
	IGA	N	Ignore Answer. This subfield specifies whether to ignore answer. Enter N.
	OPTION	see subfields	Option. This subfield specifies the name of the option. Enter CALLCHR for call characteristic bit. If OPTION is set to CALLCHR, subfield DIGDATA requires datafill.
	DIGDATA		Digital Data. This subfield specifies digital data. Enter DIGDATA.

ESN - Network Information Signals (continued)

Datafill example for table TRKGRP (outgoing)

The following example shows sample datafill for table TRKGRP.

MAP display example for table TRKGRP

```
GRPKEY
                                                GRPINFO
_____________________________________________________________
REGIBNOTDMTT
   IBNTO 0 NPDGP NCRT AREGMDCA 0 MIDL 2010267002 ANSDISC
   0 N N N N N N N 0 0 N 0 0 0 0 N N N N N N N N N NATL
   (CALLCHR DIGDATA) $
```

Datafilling table COSMAP (outgoing and incoming)

Table COSMAP (Network Class of Service Mapping) allows flexible screening and mapping of network class of service values in an ESN switch. Datafill defines a number of class of service (COS) mapping functions, each top capable of screening and altering COS values. Table COSMAP must be datafilled to define the class of service mapping for each signaling format.

The following table shows the datafill specific to ESN - Network Information Signals for table COSMAP. Only those fields that apply directly to ESN - Network Information Signals are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table COSMAP (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
NAME		1 to 16	Mapping Name. This field specifies the 1- to 16-character alphanumeric name that identifies a class of service mapping. Enter the mapping name.
MAX		0 to 255	Maximum Value. This field specifies the maximum value allowed for the mapping result. The valid range is 0 to 255.

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 done on the original NCOS by the mapping. Enter ALLOW, DISALLOW, or DEFAULT.
VALTYPE		SAME, ANYTHING, or CONST	Value Type. This field specifies the restrictions on mapping results allowed in Table COSDATA (Network Class of Service Data). Enter SAME, ANYTHING, or CONST.

Datafill example for table COSMAP (outgoing and incoming)

The following example shows sample datafill for table COSMAP.

MAP display example for table COSMAP

```
          NAME     MAX      SCREEN                VALTYPE
_____________________________________________________________
           NIL       0      DISALLOW                 SAME
          COS1       0      DISALLOW                 SAME
          COS2       0      DISALLOW                 SAME
      DPXMAP1     255     ALLOW CONST                    0
      DPXMAP2     225     ALLOW CONST                    0
```

Datafilling table IBNRTE (outgoing)

Table IBNRTE (IBN Route) contains route lists identified by a route reference index number. Table IBNRTE must be datafilled to define the route each ESN signaling format takes. Route selector N indicates that the digits outpulsed are not identical to the digits dialed. The actual digits to be prefixed or deleted are defined in Table DIGMAN (Digit Manipulation).

The following table shows the datafill specific to ESN - Network Information Signals for table IBNRTE. Only those fields that apply directly to ESN -

ESN - Network Information Signals (continued)

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

Datafilling table IBNRTE

Field	Subfield or refinement	Entry	Explanation and action
RTELIST		see subfields	Route List. This field consists of subfields IBNRTSEL, OHQ, CBQ, and EXP.
	IBNRTSEL	N	IBN Route Selector. This subfield specifies the IBN route selector that specifies whether the route is call-back and/or off-hook queueable and if expensive route warning tone is applied. Enter N.
	OHQ	Y or N	Off-hook Queuing. This subfield specifies whether off-hook queing is to be allowed on this route. Enter Y or N.
	CBQ	Y or N	Call Back Queuing. This subfield specifies whether call back queuing is allowed on this route. Enter Y or N.
	EXP	Y or N	Expensive. This subfield specifies whether an expensive route warning tone is applied. Enter Y or N.

Datafill example for table IBNRTE (outgoing)

The following example shows sample datafill for table IBNRTE.

MAP display example for table IBNRTE

```
RTE                                                RTELIST
_____________________________________________________________
228 ( CND COSMAP ACD SK 2) ( N N N N N  S5S3IBN2A   0) $
```

Datafilling table NCOS (outgoing and incoming)

Table NCOS (Network Class of Service) contains network class of service (NCOS) numbers that are assigned to attendant consoles (AC), IBN or Subscriber Services (SS) stations, incoming sides of two-way IBN trunk groups, authorization codes, and customer groups. Table NCOS must be datafilled to define the NCOS associated with each ESN signaling format.

ESN - Network Information Signals (continued)

The following table shows the datafill specific to ESN - Network Information Signals for table NCOS. Only those fields that apply directly to ESN - Network Information Signals are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table NCOS

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		see subfields	Options. This field specifies the options for the NCOS number and consists of subfield NCOSOPTN.
	NCOSOPTN	XLAS	Network Class of Service Options. Enter XLAS. If NCOSOPTN is set to XLAS, subfields PRELMXLA, FEATXLA, and DGCOLNM require datafill.
	PRELMXLA	1 to 8	Preliminary Translator. This subfield specifies the 1- to 8-alphanumeric character name of the preliminary translator. Enter the preliminary translator name, or enter NXLA if the preliminary translator is the same as that defined in Table CUSTHEAD (Customer Group Head).
	FEATXLA	NXLA	Feature Translator. This subfield specifies the name of the feature translator. Enter the feature translator name, or enter NXLA if the feature translator is the same as that defined in Table CUSTHEAD.
	DGCOLNM	NDGT	Digit Collection Name. This subfield specifies the name of the digit collection. Enter the digit collection name, or enter NDGT if the digit collection is the same as that defined in Table CUSTHEAD.

Datafill example for table NCOS (outgoing and incoming)

The following example shows sample datafill for table NCOS.

MAP display example for table NCOS

```
CUSTGRP   NCOS NCOSNAME  LSC  TRAFSNO          OPTIONS
_________________________________________________________
MS1LBR2   1    N1LBR2    0    0  (XLAS NXLA NXLA NDGT)
```

ESN - Network Information Signals (continued)

Datafilling table LINEATTR (outgoing)

Table LINEATTR (Line Attribute) must be datafilled to ensure that the appropriate line attributes are assigned to the lines.

The following table shows the datafill specific to ESN - Network Information Signals for table LINEATTR. Only those fields that apply directly to ESN - Network Information Signals are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table LINEATTR

Field	Subfield or refinement	Entry	Explanation and action
LCC		IBN	Line Class Code. This field specifies the line class code assigned to the line attribute index. Enter IBN.
MDI		0	Metering Data Index. This field specifies the metering data index. Enter 0.
IXNAME		see subfields	International Translations System Start. This field is composed of subfields XLASYS and XLANAME.
	XLASYS	NIL	International Translations System. This subfield specifies the international translations system. Enter NIL.
	XLANAME	see subfields	International Translations Name. This subfield specifies the name of the international translations. If subfield XLASYS is set to NIL, leave this subfield blank.

Datafill example for table LINEATTR (outgoing)

The following example shows sample datafill for table LINEATTR.

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
_____________________________________________________________
   8      IBN  NONE    NT   NSCR   0   613  NPRT    NLCA
 NONE      0        NIL   NILSFC  NILLATA  0    NIL
NIL      00           N                        $
```

Datafilling table IBNXLA (outgoing, outgoing 911, and incoming)

Table IBNXLA (IBN Translation) stores the data for the digit translation of calls from an IBN station, AC, or incoming side of a two-way IBN trunk group.

For outgoing ESN calls, Table IBNXLA must be datafilled to define the preliminary translator (defined in Table NCOS). The NET translation selector and the ESN network type should be used. This combination is used when the digits dialed represent the ESN access code.

A separate entry in table IBNXLA is defined for 911 service. The entry for 911 is datafilled to route 911 calls as required for the customer group. For example, 911 may be routed to the public dial plan using a Net ESN selector or to a specified route using the route selector in table IBNXLA. The additional entry for 911 service does not interfere with providing a second dial tone for 9+ calls to the public dial plan and does not suffer a delay in processing 911 calls. If a second dial tone is to be provided after dialing 9 for access to the public dial plan, a second dial tone is also provided after dialing the 9 for 911. In addition, the field for the second dial tone in the tuple datafilled for 911 should also be set to Y.

For incoming calls, Table IBNXLA must be datafilled with the PROTO translation selector. Datafill for subfield MINIDIGS, the minimum number of digits that must be collected to ensure that all the protocol digits are collected, depends on the following formats:

- Format 1: Subfield MINDIGS = 3. This is calculated by adding the number of digits in subfield DGLIDX to the number of digits in a queued ID number (ESN NCOS).
- Format 2: Subfield MINDIGS = 2. This is calculated by adding the number of digits in subfield DGLIDX to the number of digits in a TCOS.
- Format 3: Subfield MINDIGS = 4. This is calculated by adding the number of digits in subfield DGLIDX to the number of digits in the ESN NCOS.
- Format 4: Subfield MINDIGS = 3 or 4. This is calculated by adding the number of digits in subfield DGLIDX to the number of digits in an ESN NCOS or a TCOS, depending upon which is used.
- Format 5: Subfield MINDIGS = 25. This is to ensure that the TCOS digit has been collected since the length of the called number is not fixed.

The following table shows the datafill specific to ESN - Network Information Signals for table IBNXLA. Only those fields that apply directly to ESN -

ESN - Network Information Signals (continued)

Network Information Signals 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		see subfields	Key. This field consists of subfields XLANAME and DGLIDX.
	XLANAME	1 to 8	Translator Name. This subfield specifies the 1- to 8-alphanumeric character name assigned to the translator. Enter the translator name.
	DGLIDX	1 to 18	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 consists of several subfields. Subfields TRSEL, DGCOLNM, and NETTYPE pertain to ESN - Network Information Signals.
	TRSEL	NET or PROTO	Translation Selector. This field specifies the translation selector. Enter NET for outgoing calls. Enter PROTO for incoming calls. ***Note:*** If TRSEL is set to NET, subfields DGCOLNM and NETTYPE must be datafilled.
	DGCOLNM	POTS	Digit Collection Name. This field specifies the name POTS that is assigned to the block of data in Table DIGCOL (IBN Digit Collection) for digit collection for IBN lines. Enter POTS.
	NETTYPE	ESN	Network Type. This field specifies the network type ESN. Enter ESN for electronic switching network. ***Note:*** If TRSEL is set to PROTO, subfields PMI, NOACDIGS, MINDIGS, and MAXDIGS must be datafilled.
	PMI	0 to 256	Protocol Manipulation Index. This subfield specifies the protocol manipulation index of the accessed program. Enter a number from 0 to 255.

ESN - Network Information Signals (continued)

Datafilling table IBNXLA (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	NOACDIGS	see subfields	Number of Access Code Digits. This subfield specifies the number of access code digits. Enter the number of digits specified in subfield DGLIDX if the first digits is a call type (format 1 to 4, or 7). Enter 0 if field DGLIDX contains the first digit of the called number (format 5).
	MINIDIGS	1 to 25	Minimum Digits. This subfield specifies the minimum number of digits to be collected. Enter a number from 1 to 25, depending on the format.
	MAXDIGS	1 to 25	Maximum Digits. This subfield specifies the maximum number of digits that are collected. Enter a number from 1 to 25. Enter 25 if MAXDIGS does not apply.

Datafill example for table IBNXLA (outgoing, outgoing 911 and incoming)

The following example shows sample datafill for table IBNXLA.

A second example of datafill with the outward dial (9+) code for customer group CNX2 to allow centrex dial plans that use 9+ as access to the public dial plan to dial 911 for emergency access as well as 9+911 is also shown below. The number of access code digits must be set to 0 for the 911 entry.

MAP display example for table IBNXLA

```
        KEY
                                                        RESULT
 ____________________________________________________________________
 C1LBR2       613
                          NET N N N 0 N   POTS N N ESN Y 13
```

MAP display example for table IBNXLA

```
     KEY
                                                        RESULT
 ____________________________________________________________________
 CXN2      911
    NET N N N 0 Y POTS Y N ESN (LATTR 136) (EA CARR1 Y 0) $ $
```

ESN - Network Information Signals (continued)

Datafilling table HNPACONT.RTEREF (outgoing)

Table HNPACONT.RTEREF (Home NPA Route Reference) must be datafilled to define the IBN route information for outgoing ESN calls. The T route selector should be used to route the calls to Table IBNRTE.

The following table shows the datafill specific to ESN - Network Information Signals for table HNPACONT.RTEREF. Only those fields that apply directly to ESN - Network Information Signals are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table HNPACONT.RTEREF

Field	Subfield or refinement	Entry	Explanation and action
RTELIST		see subfields	Route List. This field consists of subfield RTESEL and its refinements.
	RTESEL	see subfields	Route Selector. This subfield specifies the route selector. Enter T.
	TABID	see subfields	Table Identifier. This subfield specifies the table identifier for the table name to which translation routes. Enter IBNRTE.

Datafill example for table HNPACONT.RTEREF (outgoing)

The following example shows sample datafill for table HNPACONT.RTEREF.

MAP display example for table HNPACONT.RTEREF

```
RTE                                                  RTELIST
_____________________________________________________________
11                        (         T     IBNRTE 24) $
```

Datafilling table HNPACONT.HNPACODE (outgoing)

Table HNPACONT.HNPACODE (Home NPA Code) contains the route treatment or table to which translations must route for each of the 1000 three-digit codes (000 to 999) within each of the SNPAs or STSs assigned in Table HNPACONT.

Table HNPACONT.HNPACODE must be datafilled to define the POTS route information for outgoing ESN calls. The LRTE (local route) selector should be used for this call type.

ESN - Network Information Signals (continued)

The following table shows the datafill specific to ESN - Network Information Signals for table HNPACONT.HNPACODE. Only those fields that apply directly to ESN - Network Information Signals are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table HNPACONT.HNPACODE

Field	Subfield or refinement	Entry	Explanation and action
CDRRTMT		see subfields	Code Type, Route Reference and Treatment. This field consists of subfield CD and its refinements.
	CD	see subfields	Code Type. This subfield specifies the code type route. Enter LRTE for local route.
	RR	see subfields	Route Reference Index. This subfield specifies the route reference index of the route list to which translations is to proceed. Enter a number from 1 to 1023.

Datafill example for table HNPACONT.HNPACODE (outgoing)

The following example shows sample datafill for table HNPACONT.HNPACODE.

MAP display example for table HNPACONT.HNPACODE

```
      FROMDIGS                                TODIGS
                                                   CDRRTMT
 ____________________________________________________________
      2227                                    2227
                                                 LRTE   11
```

Datafilling table COSDATA (outgoing and incoming)

Table COSDATA (Network Class of Service Data) contains the mapping and screening data for each mapping in Table COSMAP. Table COSDATA must be datafilled to ensure that the mapping and screening data for each mapping defined in Table COSMAP are defined.

The following table shows the datafill specific to ESN - Network Information Signals for table COSDATA. Only those fields that apply directly to ESN -

ESN - Network Information Signals (continued)

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

Datafilling table COSDATA

Field	Subfield or refinement	Entry	Explanation and action
COSMAP		1 to 16	Mapping Name. This field specifies the 1- to 16-character alphanumeric name that identifies a class of service mapping from field NAME in Table COSMAP. Enter the mapping name.
COS		0 to 511	Class of Service. This field specifies the NCOS value to be screened or altered. Enter a number from 0 to 511.
RESULT		0 to 32767	Mapping Result Value. This field specifies the class of service value to which the original NCOS value is altered if original NCOS passes screening. Enter a number from 0 to 32767.

Datafill example for table COSDATA (outgoing and incoming)

The following example shows sample datafill for table COSDATA.

MAP display example for table COSDATA

```
COSMAP                COS    RESULT
-------------------------------------------------------------
ACD                   0      0
```

Datafilling table DIGMAN (outgoing)

Table DIGMAN (Digit Manipulation) must be datafilled to define the appropriate digit manipulation for each ESN signaling format.

The following table shows the datafill specific to ESN - Network Information Signals for table DIGMAN. Only those fields that apply directly to ESN -

ESN - Network Information Signals (continued)

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

Datafilling table DIGMAN (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
DMIDATA		see subfields	Digit Manipulation Data. This field consists of subfield DIGCOM and its refinements.
	DIGCOM	see subfields	Digit Command. This subfield specifies the position locate command. Enter CL to position the cursor at the beginning or the end of the digit string to be outpulsed. Enter FLD to insert digits into the outpulsing digit string. The inserted digits are placed at the beginning of the digit string because of the previous CL digit command. ***Note:*** If DIGCOM is set to CL, subfield POSITION requires datafill.
	POSITION	see subfields	Position. This subfield specifies the position to set the cursor. Enter BEG to set the cursor at the beginning of the digit string. ***Note:*** If DIGCOM is set to FLD, subfield FLDAREA requires datafill.
	FLDAREA	see subfields	FLD Area. This subfield consists of subfields FIELD, DIGS, and MAP.
	FIELD	COS	Field. This subfield specifies the field name COS. Enter COS.

ESN - Network Information Signals (continued)

Datafilling table DIGMAN (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	DIGS	0 to 15	Number of Digits. This subfield specifies the number of digits to be outpulsed. Enter a number from 0 to 15. ***Note:*** This value varies according to the signaling format being outpulsed. For formats 1 and 3, enter 2 because there are two digits in an ESN NCOS. For formats 2 and 5, enter 1 because there is a single digit in a TCOS. For format 4, enter 2 if an ESN NCOS is being outpulsed, or enter 1 if a TCOS is being outpulsed.
	MAP	see subfields	Map. This subfield specifies the name of the class of service from field NAME in Table COSMAP.

Datafill example for table DIGMAN (outgoing)

The following example shows sample datafill for table DIGMAN.

MAP display example for table DIGMAN

```
DMIKEY
                                                    DMIDATA
_____________________________________________________________
201
          (  CL BEG) ( FLD  COS 1 ACD ) (  CL BEG) $
```

Datafilling table CALLCHR (incoming)

Table CALLCHR (Call Characteristic) enables the telephone operating company to assign names (meanings) to call characteristics, and should be datafilled only if format 4 is the incoming signal format type.

The following table shows the datafill specific to ESN - Network Information Signals for table CALLCHR. Only those fields that apply directly to ESN -

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

Datafilling table CALLCHR

Field	Subfield or refinement	Entry	Explanation and action
CHRNAME		1 to 16	Characteristic Name. This field specifies the 1- to 16-character call characteristic name. Enter SAT for satellite. Enter DIGDATA for digital data.

Datafill example for table CALLCHR (incoming)

The following example shows sample datafill for table CALLCHR.

MAP display example for table CALLCHR

```
CHRNAME
_______________________________________________________________
DIGDATA
SAT
```

Datafilling table PACMAN (incoming)

Table PACMAN (IBN ESN Protocol Analysis and Code Manipulation) is used to interpret the ESN call types and subcall types for incoming calls.

The following table shows the datafill specific to ESN - Network Information Signals for table PACMAN. Only those fields that apply directly to ESN - Network Information Signals are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table PACMAN (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
PMI		0 to 255	Protocol Manipulation Index. This field specifies the protocol manipulation index. Enter a number from 0 to 255.
PGM		see subfields	PACMAN Program Vector. This field consists of subfield CMD.

ESN - Network Information Signals (continued)

Datafilling table PACMAN (Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	CMD	FLD or SET	PACMAN Command. This field specifies the PACMAN command code. Enter FLD for formats 1, 2, 3, and 5, and if translations is to extract a specified number of leading or trailing digits from the incoming digits. Enter SET for format 4 if an incoming call is to be associated with the call characteristics. ***Note:*** If CMD is set to FLD, subfields FIELD, NUMDIGS, and COSMAP require datafill.
	FIELD	COS or TCOS	Field to be Extracted from Inpulsed Digits. This subfield specifies leading digits are to be extracted from the inpulsed digits. Enter COS to indicate that the leading digits are to be extracted from the inpulsed digits. Enter TCOS to indicate that trailing digits are to be extracted from the inpulsed digits of a nondigital data call.
	NUMDIGS	0 to 15	Number of Inpulsed Digits to be Extracted. This subfield specifies the number of digits to be extracted from the inpulsed digits. Valid entries are from 0 to 15. Enter 2 to indicate that the two ESN NCOS digits are to be extracted from the inpulsed digits. Enter 1 to indicate that the TCOS digit is to be extracted from the inpulsed digits.
	COSMAP	COSMAP index	COSMAP Index. This subfield specifies the 1- to 16-alphanumeric character name of the index into Tables COSMAP and COSDATA where the extracted inpulsed digits are to be screened and mapped to an NCOS. Enter the COSMAP index. ***Note:*** If CMD is set to SET, subfields CALLCHR and VALUE require datafill.

ESN - Network Information Signals (end)

Datafilling table PACMAN (Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	CALLCHR	SAT, ETN, ESN or DIGDATA	Call Characteristics. This subfield specifies the call characteristic. Enter DIGDATA if the incoming call has a digital trunk connection to an ETN switch or to an ESN. Enter SAT if the incoming call. Enter SAT if the incoming call comes in by satellite.
	VALUE	Y or N	Value. This subfield specifies the value to be given to the call characteristic. Enter Y or N.

Datafill example for table PACMAN (incoming)

The following example shows sample datafill for table PACMAN.

MAP display example for table PACMAN

```
PMI
                                                        PGM
_____________________________________________________________
0
         (FLD  COS  2   NIL) (FLD TCOS 1  COS1) (END ) $
```

Translation verification tools

ESN - Network Information Signals does not use translation verification tools.

SERVORD

ESN - Network Information Signals does not use SERVORD.

ESN - Network Speed Call

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS13 and up

Prerequisites

To operate, ESN - Network Speed Call has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The ESN - Network Speed Call (NSC) feature allows a customer group to define a common list of network speed calling numbers. The NSC list is defined by using the table editor of a MAP (maintenance and administration position). The NSC list can be changed or added to only from the MAP.

Each customer group can define 1000 NSC numbers that are accessible to its members. The total number of NSC numbers that can be defined on a single DMS-100 switch is dependent on the amount of data store in the office. Up to 24 digits can be stored for each NSC number. This feature can be used in DMS-100 offices by MDC customers who do not have the ESN features. This feature can also be used by ESN nodes and/or mains.

Network speed calling numbers have priority and restriction class marks available. This enables end users to have their calling class upgraded for access to business destinations in the NSC list from which they would usually be restricted.

Operation

To access the NSC list, the end user must perform the following steps:

- Go off-hook and receive dial tone.
- Dial the NSC access code and the two- or three-digit code (sometimes referred to as the “cell" number) associated with the number to be called.
- The DMS-100 switch completes the call if the NSC number exists and is available to the calling station.

Translations table flow

ESN - Network Speed Call does not affect translations table flow.

Limitations and restrictions

ESN - Network Speed Call has no limitations or restrictions.

Interactions

The following paragraphs describe the interactions between ESN - Network Speed Call and other functionalities.

The ESN NSC feature interacts with other MDC features as indicated in the following list:

- When a caller gains access to the MDC features through direct inward system access (DISA) and then activates NSC, certain restrictions apply, such as returning of second dial tone, and allowable outpulsing types.
- If the NCOS is upgraded when using NSC, OHQ and CBQ may apply to end users who would normally not have access to these features.
- If the NCOS is downgraded when using NSC, OHQ and CBQ may not apply to end users who would normally have access to these features.
- If the end user enters an authorization code to upgrade his or her NCOS (prior to dialing the NSC access code), the new NCOS is the one that is tested against the restrictions for the NSC number.
- Calls that require retranslation (for example, calls via a Virtual Facility Group) cannot be routed to make an ESN-Network Speed Call.

Activation/deactivation by the end user

ESN - Network Speed Call requires no activation or deactivation by the end user.

Billing

ESN - Network Speed Call does not affect billing.

Station Message Detail Recording

ESN - Network Speed Call does not affect Station Message Detail Recording.

Datafilling office parameters

ESN - Network Speed Call does not affect office parameters.

ESN - Network Speed Call (continued)

Datafill sequence

The following table lists the tables that require datafill to implement ESN - Network Speed Call. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for ESN - Network Speed Call

Table	Purpose of table
XLANAME	List of Translator Names. This table stores the default data for each translator.
COSMAP	Network Class of Service Mapping. This table allows flexible screening and mapping of network class of service values in an ESN switch.
REPLNAME	Replace Name. This table contains all the valid names for access codes that can be used in Table REPLCODE
REPLCODE	Replace Code. This table is used in replacing one-digit, two-digit, or three-digit codes with a sequence of digits for a given feature (presently only NSC).
IBNXLA	IBN Translation. This table stores the data for the digit translation of calls from an IBN station, attendant console, or incoming side of a two-way IBN trunk group.
COSDATA	Network Class of Service Data. This table contains the mapping and screening data for each mapping in Table COSMAP.
Note: All tables must be datafilled to define the translator name associated with the access code for the NSC feature.	

Datafilling table XLANAME

Table XLANAME (List of Translator Names) stores the default data for each translator. When no access code is found in Table IBNXLA for a particular translator, default data from Table XLANAME is used. If there is no default data for the operating company client group translator, the treatment specified in field VACTRMT of Table CUSTHEAD is used.

Table XLANAME must be datafilled to define the translator name associated with the access code for the NSC feature.

The following table shows the datafill specific to ESN - Network Speed Call for table XLANAME. Only those fields that apply directly to ESN - Network

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

Datafilling table XLANAME

Field	Subfield or refinement	Entry	Explanation and action
XLANAME		alphanumeric	Translator name. This field specifies the translator name that is assigned to the customer, feature, or preliminary translator. Enter the 1- to 8-character name.

Datafill example for table XLANAME

The following example shows sample datafill for table XLANAME.

MAP display example for table XLANAME

```
XLANAME            DEFAULT            MAXDIG
_____________________________________________________
NSCXLA
                     $                   9
```

Datafilling table COSMAP

Table COSMAP (Network Class of Service Mapping) allows flexible screening and mapping of network class of service values in an ESN switch. Datafill defines a number of class of service (COS) mapping functions, each capable of screening and altering COS values.

Table COSMAP must be datafilled to define the class of service mapping for the NSC feature.

The following table shows the datafill specific to ESN - Network Speed Call for table COSMAP. Only those fields that apply directly to ESN - Network

ESN - Network Speed Call (continued)

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

Datafilling table COSMAP

Field	Subfield or refinement	Entry	Explanation and action
NAME		alphanumeric	Mapping name. This field specifies the class of service mapping name. This name is used in Table REPLCODE, subfield COSMAP. Enter a 1-to 16-character name.

Datafill example for table COSMAP

The following example shows sample datafill for table COSMAP.

MAP display example for table COSMAP

```
NAME    MAX          SCREEN                    VALTYPE
_____________________________________________________
NSC      0         DISALLOW                     SAME
```

Datafilling table REPLNAME

Table REPLNAME (Replace Name) contains all the valid names for access codes that can be used in Table REPLCODE. Table REPLNAME must be datafilled to define all the valid names (for NSC access codes) that are used in Table REPLCODE.

The following table shows the datafill specific to ESN - Network Speed Call for table REPLNAME. Only those fields that apply directly to ESN - Network

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

Datafilling table REPLNAME

Field	Subfield or refinement	Entry	Explanation and action
REPLNMKY		alphanumeric	Replace name key. This field specifies a unique name to be used in conjunction with a particular feature access code. Enter the replace name key.
REPLSEL		NSC	Replace selector. This field specifies the feature that will be using the above REPLNMKY in Table REPLCODE. Enter NSC for network speed call.
NOITEMS		1 to 1000	Number of Items. This field contains the maximum number of entries that can be datafilled in Table REPLCODE for the replace name. Valid entries are from 1 to 1000.

Datafill example for table REPLNAME

The following example shows sample datafill for table REPLNAME.

MAP display example for table REPLNAME

```
REPLNMKY    REPLSEL    NOITEMS
_____________________________________________________________
BNRRTP         NSC         22
```

Datafilling table REPLCODE

Table REPLCODE (Replace Code) is used in replacing one-digit, two-digit, or three-digit codes with a sequence of digits for a given feature (presently only NSC). Table REPLCODE must be datafilled to define the digits to replace each NSC “cell" number dialed.

The following table shows the datafill specific to ESN - Network Speed Call for table REPLCODE. Only those fields that apply directly to ESN - Network

ESN - Network Speed Call (continued)

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

Datafilling table REPLCODE

Field	Subfield or refinement	Entry	Explanation and action
REPLCDKY		see subfields	Replace code key. This field consists of subfields REPLNAME and REPLNO.
	REPLNAME	alphanumeric	Replace name. This subfield specifies the unique name predefined in Table REPLNAME, field REPLNMKY. Enter the replace name.
	REPLNO	0 to 999	Replace number. This subfield specifies the cell number to be replaced. Valid entries are from 0 to 999.
REPLDIGS		0 to 999	Replace digits. This field specifies the actual digits that the cell number entered in subfield REPLNO is replaced with. Valid entries are from 0 to 999.
REPLDATA		see subfields	Replace data. This field consists of subfields REPLSEL and COSMAP.
	REPLSEL	NSC	Replace selector. This subfield specifies the feature that will be using the above REPLNAME. Enter NSC for network speed call. ***Note:*** This entry should match the entry in Table REPLNAME, field REPLSEL.
	COSMAP	alphanumeric	Class of service mapping name. This subfield specifies the name used to screen and map the NCOS for a network speed call. Enter the 1-to 16- character class of service mapping name. ***Note:*** This class of service mapping name must have been previously datafilled in Table COSMAP.

Datafill example for table REPLCODE

The following example shows sample datafill for table REPLCODE.

MAP display example for table REPLCODE

```
REPLCDKY                                  REPLDIGS REPLDATA
_____________________________________________________________
BNRRTP  0                                       11  NSC NSC
```

Datafilling table IBNXLA

Table IBNXLA (IBN Translation) stores the data for the digit translation of calls from an IBN station, attendant console, or incoming side of a two-way IBN trunk group. Table IBNXLA must be datafilled to define the translations for the NSC access code.

The following table shows the datafill specific to ESN - Network Speed Call for table IBNXLA. Only those fields that apply directly to ESN - Network Speed Call 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 subfields	Result. This field consists of subfields TRSEL, NO_ACCODE_DIGITS, SECOND_DIAL_TONE, and REPLNAME.
	TRSEL	NSC	Translation selector. This field specifies the translation selector NSC. Enter NSC for network speed calling.
	NO_ACCODE_DIGITS	0 to 7	Number of access code digits. This subfield specifies the number of digits in the access code. Valid entries are from 0 to 7.
	SECOND_ DIAL_TONE	Y or N	Second dial tone. This subfield specifies if second dial tone is required. Valid entries are Y and N.
	REPLNAME	replace name	Replace name. This subfield specifies the name that is assigned in Table REPLNAME that contains the network speed calling numbers accessible through this access code. Enter the replace name.

ESN - Network Speed Call (continued)

Datafill example for table IBNXLA

The following example shows sample datafill for table IBNXLA.

MAP display example for table IBNXLA

```
          KEY
                                                        RESULT
_____________________________________________________________________
NSCXLA     0
                                                 NSC 0 N BNRRTP
```

Datafilling table COSDATA

Table COSDATA (Network Class of Service Data) contains the mapping and screening data for each mapping in Table COSMAP.

Table COSDATA must be datafilled to ensure that the mapping and screening data for the NSC mapping defined in Table COSMAP are defined.

The following table shows the datafill specific to ESN - Network Speed Call for table COSDATA. Only those fields that apply directly to ESN - Network Speed Call are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table COSDATA

Field	Subfield or refinement	Entry	Explanation and action
COSMAP		alphanumeric	Mapping name. This field specifies the name that was datafilled in Table COSMAP, field NAME. Enter the 1-to 16-character name.
COS		0 to 511	Class of service. This field specifies the NCOS value which is screened or altered. Valid entries are from 0 to 511.
RESULT		0 to 32767	Mapping result value. This field specifies the class of service value to which the original NCOS value is altered if the original NCOS passes screening. Valid entries are from 0 to 32767.

Datafill example for table COSDATA

The following example shows sample datafill for table COSDATA.

MAP display example for table COSDATA

```
COSMAP                COS RESULT
_____________________________________________________________
 NSC                  0      0
```

Translation verification tools

ESN - Network Speed Call does not use translation verification tools.

SERVORD

ESN - Network Speed Call does not use SERVORD.

Executive Conference

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS26 and up

Prerequisites

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

Description

Executive Conference provides enhancements to two previous features: Meet-Me Conference and Meet-Me Conference Feature Expansion. A meet-me conference allows end users to meet in a conference call by dialing a meet-me conference directory number (DN) at an agreed-upon date and time. Executive Conference provides the following optional capabilities for a meet-me conference:

- allows a meet-me conference size of up to 150 participants (the previous limits were 6 or 30 participants)
- provides feature access codes to lock and unlock access to the conference (prior to this feature, the only method of conference control was by hookswitch flash)
- allows the controller of the conference to add new conferees without assistance from the attendant

Operating companies assign the Executive 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 Executive Conference. All 4,096 customer groups can be assigned the Executive Conference functionality. Thus, stations from different customer groups can call a meet-me directory number and hold a conference with all other stations.

Operation

Executive Conference provides more control to the end users of a meet-me conference. The methods of control provided by the previous meet-me conference features are still available.

Executive Conference (continued)

The attributes of a meet-me conference are datafilled in table MMCONF (IBN Meet-Me Conference). This feature adds the following two fields to the table:

- Field SIZE in table MMCONF specifies the maximum conference size.
- Field CONFTYPE in table MMCONF defines how the conference is controlled and what capabilities the conferees have.

Field SIZE

Field SIZE defines the maximum number of conferees allowed in the meet-me conference. The range of this field is 0 to 150. The maximum sizes associated with different feature packages are as follows:

- SIZE 0 through 6 is available with standard Meet-Me Conference.
- SIZE 0 through 30 is available with the Meet Me Conference Feature Expansion feature. Table CUSTHEAD must be datafilled with the SUPERCNF option.
- SIZE 0 through 150 is available with the Executive Conference feature.

Field CONFTYPE

Field CONFTYPE determines the capabilities and method of control of the meet-me conference. Field CONFTYPE can be set to STD, FLASHONLY, CODEONLY, CNF6ADDON, or CODEADDON. The feature packages present in the switch along with the datafill determine the conference types and the corresponding sizes allowed. These conference types are described in the following sections.

CONFTYPE of STD

STD provides the capabilities that were available with the previous meet-me conference features. The STD type does not allow an executive conference (a conference with more than 30 participants).

A STD conference is controlled through hookswitch flashes. The first time any conferee flashes, the conference is locked, and no other end users can dial into the conference. If a conferee flashes again, one of two things can happen, depending on whether or not the customer group has attendant consoles:

- If the customer group that owns the meet-me DN does not have attendant consoles, the first flash locks the conference, and the second flash unlocks the conference. When the conference is unlocked, end users can again dial into the conference if the maximum size has not been reached. Thus, in this case, a flash acts as a toggle between lock and unlock. The conferees can continue to flip-flop between lock and unlock. As with all types of

Executive Conference (continued)

meet-me conferences, each time the conference is locked or unlocked, the conferees hear a tone.

- If the customer group does have attendant consoles, the first flash permanently locks the conference. From this point on, no other end users can dial into the conference. There is no way to unlock the conference. The second and subsequent flashes route the call to the attendant console. The conferee who flashed is placed in the attendant queue. When routed to the attendant console, the conference becomes an attendant-controlled conference. The attendant can add conferees to the conference. An attendant-controlled conference can progress as follows:
  - After the conferee flashes, the attendant receives an indication of an incoming call. The attendant then operates the loop key for the incoming call. This lights the conference lamp.
  - The conferee can request that another station be added to the conference. The attendant operates the conference key to move the conferee back into the conference.
  - The attendant dials the number of the station to be added. When the party answers, the attendant and the party can talk privately.
  - To add this station to the conference, the attendant operates the conference key. The attendant can dial and add subsequent members.
  - The attendant can release the conference from the console by pressing the release key.
  - During the conference, any conferee can recall the attendant by flashing the hookswitch.

CONFTYPE of FLASHONLY

A FLASHONLY conference allows a conference size of 0 to 150. This type is applicable with the Executive Conference feature only. The type does not need to have the SUPERCNF option in table CUSTHEAD. In a FLASHONLY conference, a flash toggles the state of the conference from unlocked to locked or from locked to unlocked.

CONFTYPE of CODEONLY

A CODEONLY conference allows a conference size of 1 to 150. This type is applicable with the Executive Conference feature only. This type does not need the SUPERCNF option in table CUSTHEAD.

In a CODEONLY conference, the end user dials codes to lock and unlock the conference. A flash gives the conferee special dial tone. The conferee can then dial the lock code, the unlock code, or the attendant. If anything else is dialed, the conferee who flashed is given 5 s of reorder tone and is returned to the conference. If the attendant is dialed, the attendant can help the conferee to

add another station to the meet-me conference. The conferee cannot add another station without help from the attendant. When the conferee dials the attendant, the attendant can connect the conferee with another station. After the attendant releases, the conferee adds the new party to the conference by flashing and dialing the station controlled conference (CONF) code. If the conferee does not want to add the new party to the conference, the conferee can flash and dial the conference release (RLS) code instead.

Note: The only allowed way to route to the attendant is through table IBNXLA (IBN Translation) using a TRSEL of ATT. If the call is routed any other way, the conferee hears 5 s of reorder tone and is returned to the conference.

CONFTYPE of CNF6ADDON

A CNF6ADDON conference can have a size of 0 to 150. This type is applicable with the Executive Conference feature only. This type does not need the SUPERCNF option in table CUSTHEAD.

With CNF6ADDON, end users can do all the things that can be done with CODEONLY (flash and dial the lock and unlock codes or the attendant). In addition, if the end user has the “Flexible Station Controlled Conference (500/2500 Sets)" (CNF) feature on his or her phone, the end user can add another station to the conference directly without help from the attendant. If the end user does not have the CNF feature, he or she cannot add other stations to the conference without assistance. Thus, this conference type acts like CODEONLY for lines that do not have the CNF feature and like CODEADDON for lines that do.

CONFTYPE of CODEADDON

A CODEADDON conference can have a size of 0 to 150. This type is applicable with the Executive Conference feature only. This type does not need the SUPERCNF option in table CUSTHEAD.

A flash gives the end user special dial tone. The end user can then dial the lock or unlock code, call the attendant, or add another station to the conference without help from the attendant. The end user does not need to have the CNF feature on the phone to be able to add another station directly.

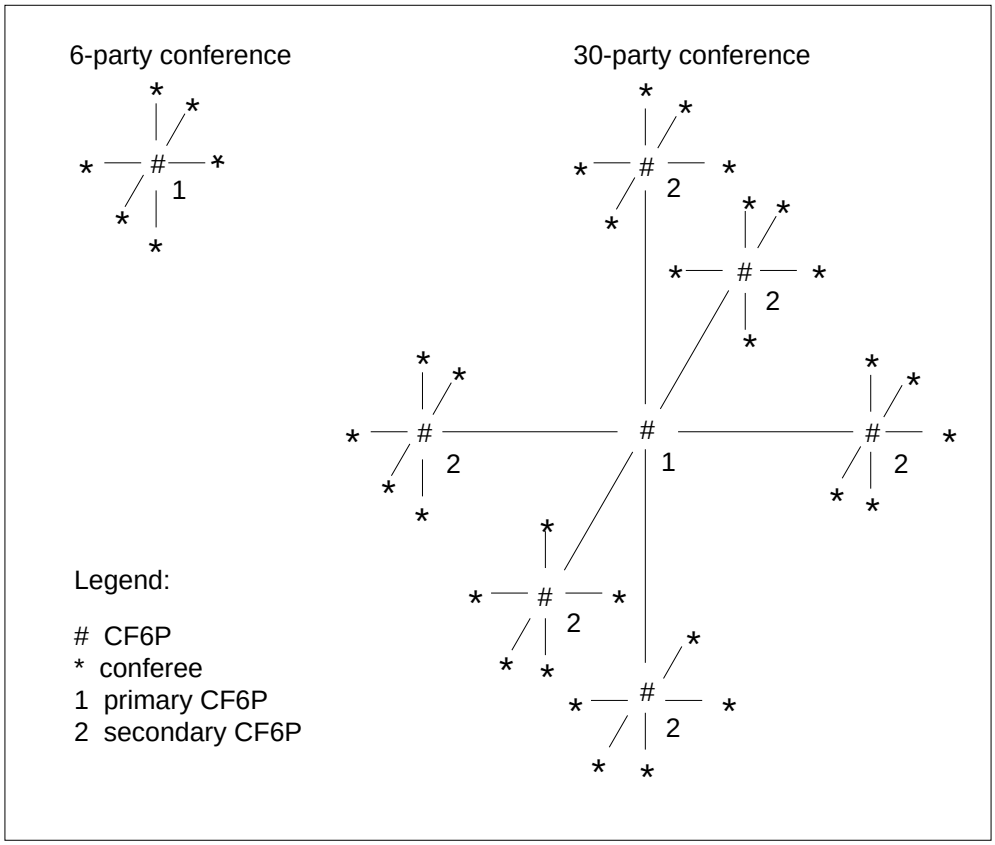
Conference port allocation

A meet-me conference is built using six-port conference circuits. The conference is initiated when an end user dials the meet-me conference DN. The first call seizes one port of a six-port conference circuit. The next five callers each seize a remaining port and form a six-port conference (CF6P) bridge. As the seventh call arrives, one of the first six callers is moved from the first CF6P to a secondary CF6P, and these two CF6Ps are tied to each other

Executive Conference (continued)

through one port on each CF6P (expanding the capacity to ten conferees). As the eleventh call arrives, a second port from the original CF6P is used as a connecting port for the two secondary CF6Ps. This algorithm is repeated each time a secondary CF6P is filled, until six secondary CF6Ps are connected to the primary CF6P. This creates a conference size of 30 conferees as shown in the following figure.

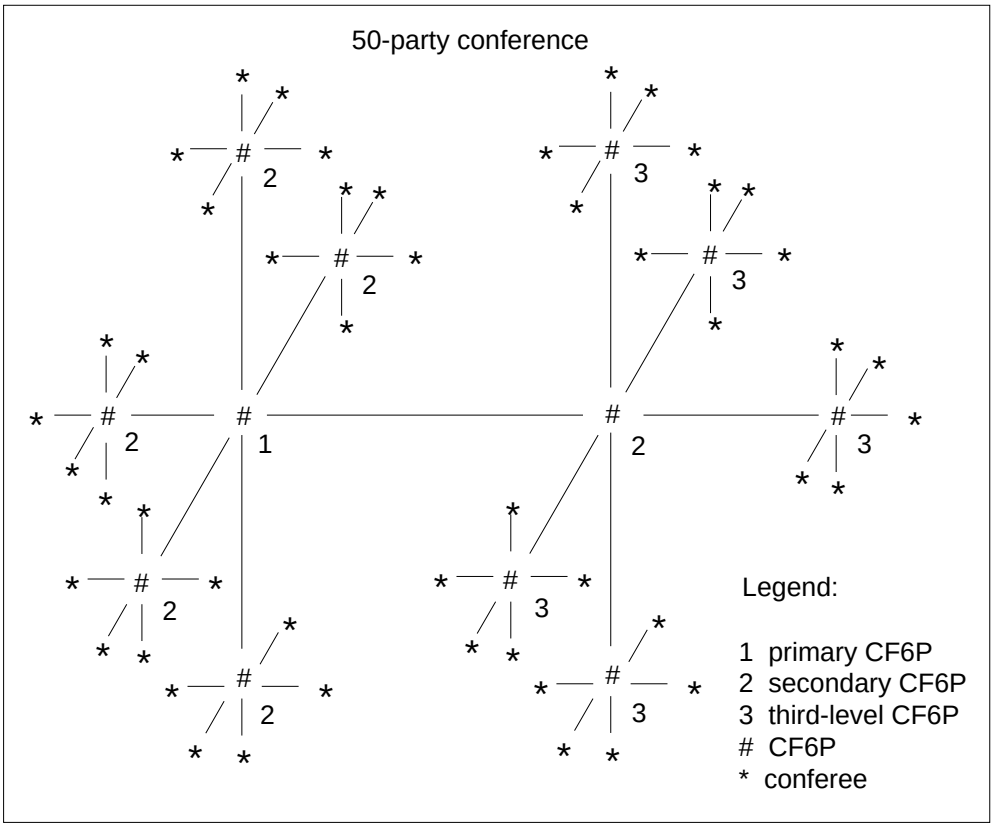
Six-party and thirty-party conference configuration



With the Executive Conference feature, a third level of CF6P is allowed, resulting in a capacity of 31 to 150 conferees. For example, the following figure shows a 50-party conference configuration.

Executive Conference (continued)

Fifty-party conference configuration



When all the secondary CF6Ps are connected to third-level CF6Ps, the conference bridge is at its 150-party maximum capacity.

Access to a conference is subject to the datafilled maximum SIZE in table MMCONF. If parties are added to the conference, the size must still be within the datafilled SIZE.

Also, a lack of available six-port conference circuits will prevent the conference from reaching its maximum size. If at some point, no more CF6Ps are available, subsequent callers trying to access the conference receive no service circuits (NOSC) treatment. Subsequent callers to the conference may be allowed to enter the conference if a port becomes available if a conferee drops out of the conference or if a CF6P becomes available.

If all the six-port conference circuits allocated to the customer group in table CUSTENG (Customer Group Engineering) are already in use, callers are given customer group resource overflow (CGRO) treatment.

Executive Conference (continued)

The following table shows the number of six-port conference circuits required to support a particular number of conferees. Six-port conference circuits are allocated for a customer group in table CUSTENG, option CONF6C.

Six-port conference circuit requirements

Number of conferees	Number of six-port conference circuits required
6	1
10	2
18	4
26	6
30	7
34	8
50	12
70	17
90	22
110	27
130	32
150	37
Note: The number of six-port conference circuits required is determined by the following formula: (number of conferees - 2) / 4.	

Conference progression

The actions that a conferee is allowed to take depend on the type of conference datafilled in field CONFTYPE of table MMCONF. While reading the following sections, keep in mind that some conference types cannot perform the activities described.

Starting a conference

To enter a meet-me conference, end users dial the meet-me conference DN. The datafill in field DIDORIG of table MMCONF determines whether or not the first caller into the conference must belong to the same customer group family as the meet-me DN. In any case, if the first caller is from a trunk, the trunk must have disconnect supervision. Also, in order to dial the meet-me

conference, a caller must have a line screening code (LSC) that is compatible with the LSC datafilled in table MMCONF.

The first caller receives audible ringing tone until the arrival of the second caller. The conference begins with the arrival of the second caller. As each participant joins the conference, a burst of ringing tone is provided to the existing participants to announce the new arrival. Field DID of table MMCONF determines whether or not the participants must all be from the same customer group family as the meet-me DN.

If the conference reaches the maximum allowed size specified in table MMCONF, further call attempts receive busy treatment until a conferee disconnects and thereby provides a vacant port on the conference. If the conference is under its maximum size, but the conference is unable to attach sufficient conference circuits, callers receive NOSC treatment. If the conference is under its maximum size, but all the conference circuits allocated for the customer group are in use, callers receive CGRO treatment. Six-port conference circuits are reserved for a customer group in table CUSTENG.

Leaving a conference

A burst of dial tone is provided each time a conferee leaves the conference. A check is performed when a conferee disconnects to ensure that there is still at least one conferee who meets the conditions needed to keep the conference up. The conditions depend on the datafill in table MMCONF:

- If stations outside the customer group family are allowed to begin the conference (field DIDORIG set to Y), at least one remaining conferee must have disconnect supervision.
- If stations outside the customer group family are not allowed to begin the conference (field DID set to N or field DIDORIG set to N), at least one remaining conferee must have disconnect supervision and must also be a member of the same customer group family as the meet-me DN.

If no remaining conferees meet these conditions, the conference is over. All conferees are dropped from the conference, and the conference circuits are freed.

If there are only two conferees remaining and one of them leaves the conference, the conference is considered over. The last conferee is dropped. The exception to this is when the remaining party is the conference controller. In this case, the conference stays active.

Conference controller

The conference controller is the party in the conference who currently has control of locking or unlocking the conference and manually adding any new

Executive Conference (continued)

parties to the conference bridge. The first conferee who flashes becomes the controller. The controller and the meet-me conference bridge must be on the same switch. The controller must also be a member of the same customer group family as the meet-me DN.

The controller remains the controller until one of the following events occurs:

- The controller dials a valid meet-me feature code (either lock or unlock) and is returned to the bridge.
- The controller dials an invalid digit string and is returned to the bridge.
- The controller goes on-hook and is removed from the conference.
- The controller dials another station and then either adds the station to the bridge or releases the station and is returned to the bridge.
- When the controller is using a Meridian business set (MBS), he or she remains the controller until one of the following happens:
  - — The add-on party being consulted is released by the controller and the controller reenters the conference by pressing the appropriate DN key.
  - — The controller adds the consult party to the conference.
- If the controller dials the attendant, the attendant has control of the conference until the attendant releases the conference by pressing the release key on the console.

After one of the above actions has been completed, the next local station in the customer group family that flashes becomes the controller. If the conferee who flashes is not in the same switch and customer group family as the meet-me DN, the conferee is given 5 s of reorder tone and is not made the controller. There can only be one controller at a time. Any conferee who flashes while there is already a controller is routed to reorder tone for 5 s and then returned to the bridge.

Flashing in meet-me conference

A conferee flashes to become the controller of the conference. How the end user flashes depends on whether the end user has a 500/2500 set or an MBS.

- If the conferee is using a 500/2500 set, a flash is performed by going on-hook (pressing the hookswitch) for at least 200 ms and not more than 1200 ms.
- If the end user has an MBS with a six-port conference (CNF) key, the conferee presses that key to flash.

- If the MBS does not have a CNF key, the conferee presses the three-way call key (3WC) or the call transfer key (CXR) to flash.
- If the MBS does not have a 3WC, CXR, or CNF key, this conferee cannot become the controller. It is highly unlikely that an MBS will exist in this configuration.

Conference lock

The controller locks the conference by flashing and dialing the lock access code (MMLK in the first FEAT field in table IBNXLA). When the end user dials this code, the conference is locked to further callers. The end user is returned to the conference and no new callers are allowed in. After the end user dials this code, all parties in the conference are given lock confirmation tone. If the conference is already locked and a conferee dials the lock code, the conference is given lock confirmation tone and the conferee is returned to the conference.

Conference unlock

After a conference is locked, a conferee can unlock the conference by flashing and dialing the unlock access code (MMUL in the second FEAT field table IBNXLA). The conference is unlocked so that other end users can dial into the conference. After the end user dials this code, all parties in the conference are given unlock confirmation tone. If the conference is already unlocked and a conferee dials the unlock code, the conference receives unlock confirmation tone and the conferee is returned to the conference.

Conference add-on

If the datafill in table MMCONF allows, a conferee can consult with a station outside the meet-me conference and can add that station to the conference. For 500/2500 sets and for MBSs that do not have a conference key, the add-on operation is identical to the way in which the Flexible Station Controlled Conference (500/2500 Sets) feature adds a party to a conference. Dialed access codes are used to add additional parties. For further details, see “Flexible Station Controlled Conference (500/2500 Sets)". For MBSs with a conference (CNF) key, the operation is similar to the six-port conference feature.

To consult with another station, a conferee flashes and becomes the controller. The controller then dials a terminating station, and the terminating station answers. The controller and the new station consult privately. This is known as consult mode. No other conferees can hear them. How the controller adds

Executive Conference (continued)

the station into the conference depends on whether the controller has a 500/2500 set or an MBS. The following paragraphs describe each case.

- Add-on controller using a 500/2500 set

  The controller is currently consulting with a station. The controller can either add the station to the conference or release the station, as follows:

  — To add the station into the conference, the controller flashes and hears special dial tone. The controller then dials the station controlled conference activation code (CONF in table IBNXLA). This brings both the controller and the station into the conference. At this point, control is relinquished, and any other qualified conferee can take control of the conference.

  — The controller does not have to add the consult station to the conference. The controller can release the station. To release the station, the controller flashes and hears special dial tone. The controller then dials the station controlled conference release code (RLS in table IBNXLA). This releases the consult station and returns the controller to special dial tone. The controller then has the option to dial another DN or to dial the CONF code and return himself or herself to the conference. Once the controller returns to the conference, control is relinquished, and another conferee can take control of the conference.

  While in consult mode, the controller can only dial the station controlled conference code (CONF) or the station controlled release code (RLS). If the controller dials any other code, the controller receives 5 s of reorder tone and is returned to consult mode with the party with whom he or she was consulting. The controller is removed from the meet-me conference bridge if he or she goes on-hook.

- Add-on controller using an MBS without a CNF key

  An MBS that does not have a conference (CNF) key works like the 500/2500 sets except the controller uses the 3WC or CXR key to flash. Everything else under the 500/2500 set explanation applies here. Dialed access codes are used to add and release another station.

- Add-on controller using an MBS with a CNF key

  If the MBS has a CNF key, the controller uses this key instead of dialed codes to add the consult station to the conference. Refer to “MBS 30-Port Conference" for information about the CNF key. At this point, the controller is consulting with a station. The CNF lamp is turned on and the appropriate DN lamp is blinking.

  — To add the station into the conference, the controller presses the CNF key. The CNF lamp turns off, and the appropriate DN lamp turns on.

Both the station and the controller are added into the meet-me conference bridge. At this point, control is relinquished, and any other qualified conferee can take control of the conference.

— To release the station, the controller presses the release key or goes on-hook. The CNF lamp turns off, and the DN lamp is blinking. The controller presses the DN key, the DN lamp turns on, and the controller is back in the meet-me conference. At this point, control is relinquished, and any other qualified conferee can control the conference.

— The controller can also alternate between the consult station and the conference. To return to the conference without bringing the consult station, the controller presses the DN key. The DN lamp turns on, and the CNF lamp blinks. To return to the consult station, the controller presses the CNF key. The DN lamp is now blinking, and the CNF lamp is on.

Attendant console interactions

If the controller dials the attendant after flashing, the controller cannot do anything while consulting with the attendant. All controller actions are ignored because control has passed to the attendant.

At the attendant console, the call appears as a standard one-party call. The attendant is given no indication that this is a conference call. The attendant can connect the controller to another station. This can be useful if the controller has a limited dialing plan and is denied access to the station. After connecting the two together, the attendant releases the call. At this time, the controller can take action. The controller is now consulting with the station and can either add the station to the conference or release the station as described in the previous sections.

The previous form of meet-me conference is still available with field CONFTYPE in table MMCONF set to STD. Refer to “Field CONFTYPE" in this feature description for information on the attendant interaction with an STD conference.

Tones

When a conferee enters, leaves, locks, or unlocks a conference, a special tone is provided to all conferees. The tone set previously used by Meet-Me Conference was as follows:

- Call arrival—400-ms burst of ring tone (400 Hz + 480 Hz)
- Call disconnect—400-ms burst of dial tone (350 Hz + 400 Hz)

Executive Conference (continued)

- Lock confirmation—500 ms of high tone (480 Hz)
- Unlock confirmation—two 500-ms splashes of high tone

The tones are now standardized to the following:

- Call arrival—500 ms of ring tone
- Call disconnect—500 ms of dial tone
- Lock confirmation—500 ms of high tone
- Unlock confirmation—three cycles of 100-ms high tone/100-ms silence followed by 400 ms of high tone
- Error—5 s of reorder tone

Translations table flow

The Executive Conference translations tables are described in the following list:

- Table MMCONF (IBN Meet-Me Conference) contains the types of meet-me conferences.
- Table IBNXLA (IBN Translation) stores the data for the digit translation of calls from an IBN station, an attendant console (AC), or an incoming side of a two-way IBN trunk group.
- 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 Executive Conference translation process is shown in the flowchart that follows. The flowchart and data show how a meet-me conference specifies whether participants must all be form the same customer group family as the meet-me DN, and how the conference is controlled.

Executive Conference (continued)

Translations data flow for activating Executive Conference

End user with CONF feature dials the meet-me conference DN. The first end user who flashes becomes the controller.

↓

Table MMCONF
field DID = Y or N
Specifies whether participants must all be from same customer group family as the meet-me DN.
field DIDORIG = Y or N
Specifies whether the first caller into the conference must belong to same customer group family as the meet-me DN.
field CONFTYPE = STD, FLASHONLY, CODEONLY, CNF6ADDON, or CODEADDON
Specifies the type of meet–me conference and other characteristics of the originator and participants.

↓

Controller locks conference by flashing and dialing the lock access code. Controller and end user can unlock conference by flashing and dialing unlock access code.

↓

Table DNINV
Automatically datafilled with the DN that is listed in table MMCONF as the meet-me conference DN.

↓

Table IBNXLA
field RESULT
subfield TRSEL = FEAT
subfield FEATURE = CONF, MMLK or MMUL
Specifies the access code to lock or unlock the conference.

↓

Burst of dial tone is provided when end user leaves the conference.

Executive Conference (continued)

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

Datafill example for Executive Conference

Datafill table	Example data
MMCONF	CUST1 0 919 555 1000 0 Y N 78 FLASHONLY
DNINV	919 555 1000 FEAT MEETME IBNTST 0
IBNXLA	NTIXLA 9 FEAT N Y Y CONFNTIXLA 9 FEAT N Y Y MMLK NTIXLA 9 FEAT N Y Y MMUL

Limitations and restrictions

The following limitations and restrictions apply to Executive Conference:

- To be the conference controller, a conferee must be on the same DMS-100 switch and in the same customer group family as the meet-me conference DN.
- If the first conferee is on a trunk, the trunk type must be one that returns disconnect supervision (in particular, it cannot be a 5X25 loop). If this is not the case, the caller receives reorder treatment and cannot enter the conference.
- At any time, at least one member of the conference must be able to supply disconnect supervision.
- Field DID in table MMCONF determines whether or not stations outside the customer group can dial the meet-me conference DN. For stations that do not dial the conference, but are added to the conference by a conferee, DID checking is not performed.
- Field LSCCOMB in table MMCONF determines the LSC flag that is checked for each station that dials into the meet-me conference. (Line screening code flags are datafilled in table LSCFLAGS.) For stations that do not dial the conference but are added to the conference by a conferee, LSC checking is not performed.
- If a conference type of CODEONLY is chosen and the end user dials the attendant, the call must route using a TRSEL of ATT in table IBNXLA to terminate on the attendant. This also applies to the conference type CNF6ADDON with controllers without the conference feature.
- All changes to the meet-me conference DN should be done through table MMCONF. Any other method of changing the meet-me conference DN is not supported.
- If the meet-me conference type is CODEADDON or CNF6ADDON, the attendant is not allowed to add a conferee to the conference. The controller

now adds the station into the conference. The controller can call the attendant and consult, but the controller adds new stations into the conference or releases a station without adding them to the conference.

- If a conferee flashes when the attendant is attached to the conference, the flash is ignored.
- If a conference type of STD is chosen, the maximum size of the conference is 30.
- If a conference type is STD, any conferee can lock/unlock the conference. If the conference type is not STD, then a conferee must be a member of the same customer group as the meet-me DN. Since a flash is needed, a POTS line is usually disconnected, and an MDC line from a different group receives 5 second reorder tone.
- With the STD type conference, if the customer group has consoles, the first flash permanently locks the conference, and any subsequent flashes route the call to the attendant. These calls remain in queue at the attendant until answered by the attendant or until the party who flashes goes on-hook. While waiting for an attendant to answer, lines that are connected to line modules (LM) hear nothing. Lines connected to line concentrating modules (LCM) hear ringback until the attendant answers. This is due to the fact that LMs are connected to the network and would require a maintenance trunk module (MTM) to be connected to give ringback. LCMs are connected to line group controllers (LGC) and can provide ringback tone.
- If field DID in table MMCONF is set to N, all callers dialing the meet-me conference DN must be in the same customer group family as the DN. If the caller is not in the same customer group family, the caller receives NACK treatment.
- If field DID in table MMCONF is set to Y, field DIDORIG in table MMCONF is checked. If field DIDORIG is set to Y, the first caller to the meet-me DN can call from inside or outside the customer group family. If field DIDORIG is set to N, the first caller in the meet-me conference must be in the customer group family.
- If field DID is set to Y and field DIDORIG is set to N, there must be a member of the customer group family in the conference at all times, or the conference is taken down.
- In order to dial the meet-me conference, all conferees must have LSCs compatible with the LSC datafilled in table MMCONF.

Executive Conference (continued)

Interactions

The following paragraphs describe the interactions between Executive Conference and other functionalities.

- Once within a meet-me conference, normal flash features on an MBS are disabled and some keys may invoke different functions. Since a flash is needed, a POTS line is usually disconnected, and an IBN line from a different group receives 5 second reorder tone. When a DMS station is connected to a conference bridge, the following features cannot be used during the conference:
  - call waiting on 500/2500 sets
  - three-way calling
  - call transfer
  - attendant camp-on
  - busy verify of lines connected to the conference bridge
  - busy verify of trunks connected to the conference bridge
  - data calls
- All features that currently work with the station controlled conference feature now work with meet-me conference. This means that the features MADN, cut through dialing, call forward don't answer, E800, call waiting on MBS, auto dial, complicated outpulsing, and DISA now work with meet-me conference.
- Calls to 500/2500 sets that are involved in a meet-me conference cannot be call waited. The caller hears busy tone and can activate ring again or call-back queuing. Call waiting does work with an MBS in a meet-me conference as long as the MBS end user is not consulting with the attendant.
- If a conferee has the call forward busy (CFB) feature, calls to the conferee are forwarded during the conference.
- The attendant cannot camp on a conferee or use the busy verify line or trunk features against a conferee.
- If an attendant attempts to dial into a meet-me conference, the attendant receives NACK treatment.
- The following items describe what the conferees can do once they become the controller. For example purposes, the controller is referred to as “A":
  - “A" can use speed calling to call a prospective add-on station.
  - “A" can dial a prospective conferee and either the station controlled conference (CONF) code or the station controlled release (RLS) code.

Executive Conference (continued)

Once “A" has dialed a prospective conferee and is in consult mode, “A" can only dial the CONF or RLS code. If “A" dials anything other than one of these codes, “A" hears 5 s of reorder tone and is reconnected to the prospective conferee.

— If “A" is prompted for an account code due to datafill in table IBNXLA, an account code must be entered.

- The following interactions apply once the controller is ringing a prospective conferee. For example purposes, the prospective conferee is referred to as “E," and the controller is referred to as “A":

  — If “E" is reached over a trunk that does not spill ANI, “A" can flash and dial the CONF code any time after the DMS-100 switch has completed outpulsing. No checks for answer supervision are made.

  — If “E" is reached over a trunk that spills ANI, “A" can flash and dial the CONF code any time after the DMS-100 switch has completed outpulsing the ANI. No checks for answer supervision are made.

  — If “E" is a line and “A" is using an MBS with a CNF key, pressing of the CNF key is ignored until “E" answers. However, “A" can release the call at any time using the release key.

  — If “E" is a line and “A" is on a 500/2500 set or an MBS without a CNF key, “A" can flash and dial the CONF code before “E" answers. However, “E" is not added into the conference, and “A" is returned to the conference. If “A" dials the RLS code before “E" answers, “A" is returned to the conference, and “E" is released.

  — Another station can use the call pickup feature to answer the call to “E".

  — If “E" does not answer and has call forward don't answer (CFD), the call is call forwarded in accordance with the CFD feature.

  — If “E" is busy and has call forward busy (CFB), the call is forwarded in accordance with the CFB feature.

  — If “E" has activated call forward universal (CFU) or call forward intragroup (CFI), the call is forwarded in accordance with the CFU or CFI feature.

  — If “E" is busy and has call waiting (CWT) or call waiting intragroup (CWI), “A" is not call waited. “A" hears busy tone.

  — The DN for “E" cannot be a meet-me conference DN. “A" hears busy tone.

  — If “E" is the attendant, “A" loses control of the conference call once the attendant has answered. While queued for the attendant, the controller can flash. If this is done, the controller is removed from the attendant

Executive Conference (continued)

queue and is given SDT. The controller can then dial the conference or release code.

— Once the attendant releases the call using the release key, “A" regains control of the conference call and can again add new parties. When the attendant answers the conference call, “A" is on the source, and the attendant has no indication that “A" is involved in a conference call.

— If “E" is called using an outgoing trunk, “A" has the off-hook queueing (OHQ) feature and OHQ is applicable, “A" is OHQ. If “A" flashes during the OHQ period, “A" is removed from the OHQ, and “A" receives special dial tone. The OHQ feature no longer applies.

— If “E" is a line-terminated loudspeaker paging device served by the DMS-100 switch, “A" hears busy tone.

— Once “E" has answered, “E" cannot activate call park, permanent hold, three-way calling, call transfer, or any other feature. “E" can only remain off-hook or disconnect by going on-hook.

Activation/deactivation 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 or dials the lock access code to lock the conference call.

5 Conferees disconnect in any order to end the conference.

Billing

Executive Conference does not affect billing.

Station Message Detail Recording

Executive Conference does not affect Station Message Detail Recording.

Datafilling office parameters

Executive Conference does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement Executive Conference. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Executive Conference

Table	Purpose of table
MMCONF	IBN Meet-Me Conference table is required for a DMS with the IBN meet-me conference feature.
DNINV	Directory Number Inventory table contains the data for all assigned and unassigned directory numbers. ***Note:*** Table DNINV is a read-only table. Therefore, no datafill procedure is provided.
IBNXLA	IBN Translation 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.

This feature changes tables MMCONF and IBNXLA. Table MMCONF has the fields SIZE and CONFTYPE added. Table IBNXLA has the access codes for lock and unlock added to field FEATURE. These codes are MMLK (meet-me lock) and MMUL (meet-me unlock). Table IBNXLA also contains the codes that allow the controller to add additional stations to the meet-me conference, and to release the station from consult mode if the controller does not want to add it to the conference. These codes are CONF (conference) and RLS (release).

> ***Note:*** Lock and unlock codes and conference and release codes only apply to conference types CODEONLY, CNF6ADDON, and CODEADDON.

If a conference type of FLASHONLY, CODEONLY, CNF6ADDON, or CODEADDON is datafilled in table MMCONF, the meet-me DN is automatically added to table DNINV. Table DNINV is a read-only table; therefore, the meet-me DN can only be changed through table MMCONF.

Refer to “Flexible Station Controlled Conference (500/2500 Sets)" for the datafill for conference (CONF) and release (RLS) codes. Refer to “MBS 30-Port Conference" for the datafill for assigning a CNF key to an MBS. Note that not all meet-me conference types allow end users to add additional stations to the meet-me conference.

Executive Conference (continued)

Datafilling table MMCONF

Table MMCONF (IBN Meet-Me Conference) contains datafill requirements for the Meet Me Conference feature.

The following table shows the datafill specific to Executive Conference for table MMCONF. Only those fields that apply directly to Executive Conference 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
DID		Y or N	Direct Inward Dial. This field specifies whether only the incoming lines and trunks within the same customer group family as the meet-me conference DN are allowed to dial the meet-me conference DN. Enter Y or N.
DIDORIG		Y or N	Direct Inward Dial Origination. This field specifies whether extra group lines can initiate a meet-me conference. Enter Y or N.
SIZE		0-150	Maximum Conference Size. This field specifies the maximum conference size. Enter a value from 0 to 150. The maximum allowed size depends on the feature packages present in the switch and the conference type (CONFTYPE) chosen.
CONFTYPE		STD, FLASHONLY, CODEONLY, CNF6ADDON, CODEADDON	Conference Type. This field specifies the type of meet-me conference. For Executive Conference, enter FLASHONLY, CODEONLY, CNF6ADDON, or CODEADDON.
OPTIONS			Options. This field consists of subfield MMOPTNS.

Datafilling table MMCONF (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	MMOPTNS		Meet-me conference option. Enter 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).

Datafill example for table MMCONF

The following example shows sample datafill for table MMCONF. In the example, table MMCONF is datafilled with three meet-me conference DNs.

MAP display example for table MMCONF

```
TABLE: MMCONF

  LKEY SNPA NNX DEFGDIGS LSCOMB DID DIDORIG SIZE CONFTYPE
                                                 OPTIONS
-----------------------------------------------------------------
CUST1  0  919 555     1234   0   Y     Y      6         STD $
CUST1  0  919 555     1235   0   N     N    150   CODEADDON $
CUST1  0  919 555     1000   0   Y     N     78   FLASHONLY $
```

Datafilling table IBNXLA

Table IBNXLA (IBN Translation) stores the data for the digit translation of calls from an MDC station, an attendant console (AC), or an incoming side of a two-way IBN trunk group.

The following table shows the datafill specific to Executive Conference for table IBNXLA. Only those fields that apply directly to Executive Conference

Executive Conference (continued)

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
KEY		See subfields	Key. This field consists of subfields XLANAME and DGLIDX.
	XLANAME	1 to 8 alphanumeric characters	Translator Name. This subfield specifies the name that is assigned to the translator. Enter the 1 to 8 character name.
	DGLIDX	1 to 18 digits	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 consists of subfield TRSEL.
	TRSEL	FEAT	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 must be datafilled.
	ACR	Y or N	Account Code Entry. This subfield specifies if an account code is required. Enter Y or N.
	SMDR	Y or N	Station Message Detail Recording. This subfield specifies if SMDR is required. Enter Y or N.
	VCDR	Y or N	Variable Call Detail Recording. This subfield specifies if VCDR is required. Enter Y or N.
	FEATURE	CONF	Feature. This subfield specifies the feature assigned to a line. Enter CONF.

Datafill example for table IBNXLA

The following example shows sample datafill for table IBNXLA. In the example, table IBNXLA is datafilled with meet-me conference and meet-me conference lock and unlock codes.

MAP display example for table IBNXLA

```
TABLE: IBNXLA

   KEY                                RESULT
----------------------------------------------------
   NTIXLA   123                  FEAT N Y Y  CONF
   NTIXLA   124                  FEAT N Y Y  MMLK
   NTIXLA   125                  FEAT N Y Y  MMUL
```

Translation verification tools

Executive Conference does not use translation verification tools.

SERVORD

Executive Conference does not use SERVORD.

IDDD via ARS

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS28 and later releases

Prerequisites

To operate, IDDD via ARS has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC Standard, MDC00003

Description

The IDDD via ARS feature allows MDC customers to access International Direct Distance Dialing (IDDD) using Automatic Route Selection (ARS) through the customer's private network. The types of private networks are Tandem Tie Trunk Network (TTTN) and Electronic Switched Network (ESN). This feature removes the requirement for IDDD calls to go directly to the public network to be processed. Removing this need lowers billing rates.

Additional enhancements are as follows:

- allows a higher call completion rate through enhanced routing capabilities. “Achieving higher call completion rates" describes enhanced routing.
- allows customer regulation of access to IDDD calls at several points within the customer's private network. The regulation is provided by the blocking of calls using a Network Class of Service (NCOS) or by the restriction of calls using code restrictions. The system blocks and restricts calls through the screening of the digits dialed. “MDC customer regulation of IDDD calls" explains regulation of the calls. Calls can be restricted at the following points during dialing:
  - — country code
  - — country code and metropolitan code
  - — entire digit string
- allows the prefix fence during code restrictions to be ignored. “Ignoring the prefix fence when using code restrictions" explains the use of the prefix fence.

- helps meet the requirements of networking international operations for MDC customers. “International MDC networking operations" explains international operations.
- provides use of the following MDC advanced routing capabilities:
  - — ARS
  - — Off-Hook Queueing
  - — Call-Back Queueing
  - — Expensive Route Warning Tone

  “Achieving higher call completion rates" and Automatic Route Selection describe these features.

Operation

To understand the software operations of this feature package, the following system services and features you must understand:

- IDDD
- ARS
- Customer Private Networks.
  - — TTTN
  - — ESN (Also known as Meridian Switched Network [MSN]).

“International direct distance dialing (IDDD)" explains IDDD. Automatic route selection (ARS)" explains ARS. “Customer private networks" explains customer private networks.

The above system services and features are described in this feature description. References are cited to documents that contain more information about these services and features.

Call routing

IDDD via ARS can be loaded on a DMS-100 or DMS-100/200 switch. Therefore, all the translations for a call originating at the local DMS-100 or DMS-100/200 switch are done at that switch. If the subscriber belongs to a customer group with dedicated trunk groups, the route of the call to the terminating switch routes correctly.

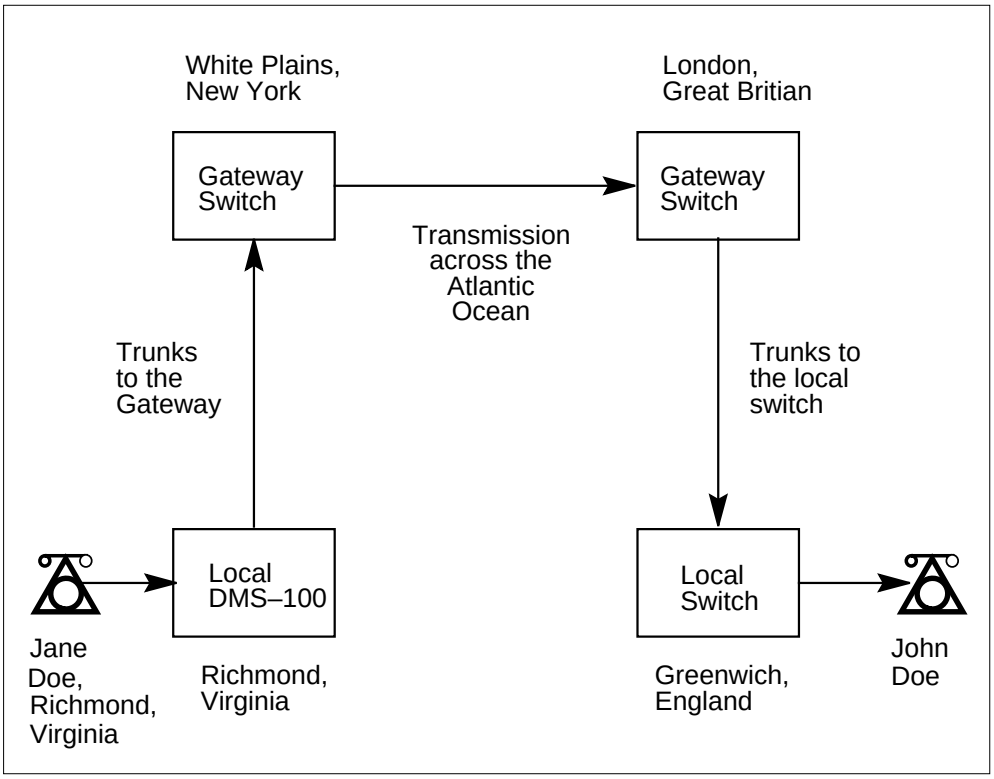
The following figure illustrates the physical connections that allow MDC customers to access IDDD using ARS through the private network of the customer. In this example, the translations for a call from Jane Doe in Richmond, Virginia completes at the local DMS-100 switch. The call is

IDDD via ARS (continued)

routed to the gateway switch in New York. The gateway in New York transmits the call across the ocean to the gateway switch for England, in London, Great Britain. The call is sent over a trunk to the local switch and to John Doe in Greenwich, England.

“IDDD via ARS call progression" explains what occurs during a call.

Example of call routing for an IDDD call



International direct distance dialing (IDDD)

IDDD is a telephone exchange service that allows subscribers to call other subscribers outside of North America without operator help. An IDDD number consists of the following components:

- 011 for the international access number
- one- to three-digit country code
- the number of the called party (up to 15 digits).

The IDDD number takes the following form.

```
011  +  C (C) (C)  +  NXXXXXX
```

The values in the example IDDD number are as follows:

- C is any digit between 0 and 9.
- X is any digit between 0 and 9.
- N is any digit between 2 and 9.

The maximum number of digits in an IDDD number is 15.

Refer to the data schema section of this document for more information about IDDD.

Automatic route selection (ARS)

ARS is a feature that allows an outgoing call to be automatically completed by the least expensive route, from a customer specified search order. The levels of routing difficulty are described in the following table.

Levels of Routing Difficulty for ARS

Difficulty	Description
Simple	Single identifiers specify where calls terminate.
Alternate	Lists routes to try in a specified order. This order is datafilled in the route data tables.
Conditional	The alternate routes are altered by statements in the route lists beginning with *if*.
Queueing	A method of waiting for busy routes to become available. The types of queueing are as follows: • Off-Hook Queueing (OHQ): a system feature which allows a call, that cannot be completed because inexpensive, outgoing trunks are unavailable, to wait off-hook for an idle trunk. • Call-Back Queueing (CBQ): a system feature that allows a station encountering an all-trunks-busy condition to be notified by the system when a trunk becomes idle.

Customer private networks

The customer private networks are the TTTN and ESN. TTTNs and ESNs are referred to as Private Networks (PN) in this document unless a difference is noted between the two networks. An ESN is also known as an MSN.

IDDD via ARS (continued)

A TTTN and an ESN are configured in a different way, but, user operation is alike for both networks.

Electronic switched network

The ESN is a business communications network. This network consists of a number of nodes. These nodes, normally intelligent Private Branch Exchanges (PBX), are accessible to each other through on-net links. Each node can communicate with the public network and to specialized common carriers.

Calls are made on this network by dialing the ESN node location code, followed by the desired station extension.

Tandem Tie Trunk Network: The TTTN consists of a network of tie trunks between customer nodes. Calls are made on this network by dialing Access Codes followed by the extension of the desired station.

Nodes in the TTTN operate in a cut-through mode. For example, when an access code is dialed, the switch seizes a trunk, based on the access code. The switch repeats the dialed digits as each digit is dialed by the subscriber. Dial tone is sent to the subscriber by each switch that indicates the dialed digits were received, translated, and routed to an idle trunk by the far-end switch. This switch receives the digits.

Using the customer private networks

The following table lists the destination of four calls that originate from node A in an ESN based on the digits dialed. The top diagram in the following figure illustrates an ESN uniform dialing plan. The network determines call routing.

ESN dialing plan examples

Source node	Call destination	Digits dialed
A	Node D	6+444+Extension
A	Node E	6+555+Extension
A	SNPA 613	9+Public Number
A	SNPA 519	6+519+Public Number

The following table lists the destination of five calls that originate from node A in a TTTN based on the digits dialed. The intermediate nodes that route the

IDDD via ARS (continued)

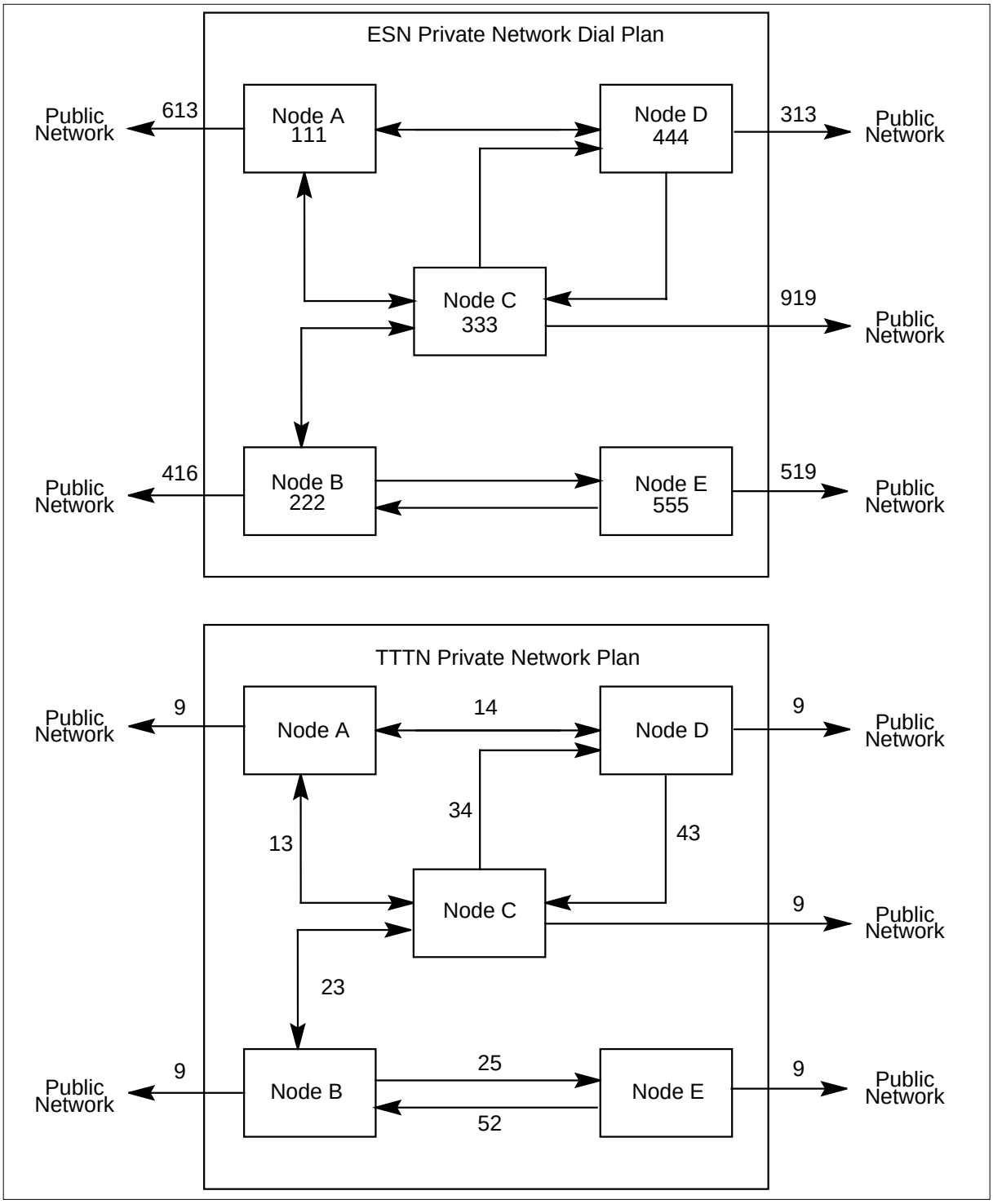
calls are listed. The bottom diagram in the following figure illustrates a TTTN dialing plan. The caller determines the network route of the call.

TTN dialing plan examples

Source node	Intermediate nodes	Call destination	Digits dialed
A		Node D	14+Extension
A	D	Node C	14+43+Extension
A	C and B	Public	13+23+9+Public Number
A		Public	9+Public Number
A	D, C, B, and E	Public	14+43+23+25+9+ Public Number

IDDD via ARS (continued)

ESN and TTTN dialing plans



Using multiple customer groups

An MDC node can have several different customer groups. A customer group can have different requirements and characteristics. Customer groups can be a member of independent PN allowing independent translations of IDDD calls. These PNs are visible only to the customer groups which belong to them.

There can be several PNs at an MDC node. Customers on an MDC node can reach the same international destination trough completely different routes even when the digits dialed are identical.

“Achieving higher call completion rates" and the following figure illustrate this capability.

MDC customer regulation of IDDD calls

IDDD via ARS allows customers to regulate the access of IDDD calls at several points within the PN of the customer. The regulation is provided by blocking calls using an NCOS or by restricting calls using code restrictions. The system blocks and restricts calls through the screening of the digits dialed.

Option ERWT provides a tone to warn the user that an expensive route was selected to complete the IDDD call.

Calls can be restricted using code restriction levels when the country code, metropolitan code, or the entire digit string is dialed.

The NCOS of a call determines if the call is blocked or allowed. The following table illustrates IDDD call restriction level examples for a single customer group but not all customer groups.

On-network IDDD calls is provided by IDDD via ARS. The following figure illustrates on-network and off-network dialing plan possibilities for TTTN, ESN, and IDDD calls.

Country Code: A Country Code (CC) is a 1- to 3-digit number that identifies a country. Every country has a code. For instance, the CC for England is 44. Depending upon the use of the CC, either of the following situations obtains:

- Customer group members can dial IDDD destinations only within a specified country as specified in table CTCODE.
- Customer group members can dial all IDDD destinations except those listed as specified in table CTCODE.

IDDD via ARS (continued)

Metropolitan code

A Metropolitan Code (MC) is a 1- to 3-digit number that identifies a specified city. With a CC and MC restriction, customer group members can dial IDDD destinations within the specified city of a country. The customer group member may or may not have an on-net node within the city.

Entire digit string

Customer group members with an entire digit string restriction can dial only specific IDDD destinations. The CC and National Number (NN) are screened to determine if a specific destination is allowed for the customer group member.

A national number is the complete ten-digit number (3-digit NPA code + 3-digit Central Office code + 4-digit station number) that pinpoints the location of a telephone in North America or a foreign country.

IDDD call restriction level examples

Dialed number	Explanation
011+45	All destinations in country code (CC) 45 can be accessed.
011+46+371	All destinations in CC 46 and metropolitan code 371 can be accessed.
011+46+372	All destinations in CC 46 and metropolitan code 372 can be accessed.
011+44+682+770770	Only dialed destination 770770 in the CC 44 and metropolitan code (MC) 682 can be accessed. All other destinations within this country are blocked.
011+44+682+880880	Only dialed destination 880880 in the CC 44 and MC 682 can be accessed. All other destinations within this country are blocked.

IDDD via ARS (continued)

Automatic Route Selection Dialing Plan Possibilities

ON–NETWORK CALLS		**OFF–NETWORK CALLS**	
TTTN Dialing Plan Calls to destinations within the customer TTTN.		TTTN Dialing Plan Calls to destinations outside the customer TTTN and within the North American public network.	
What to Dial	Example	What to Dial	Example
TTTN access code(s) + station extension	13+23+25+ 3456	TTTN access code(s) + DOD access code + public number	13+23+25+ 9+ 5551212
ESN Dialing Plan Calls to destinations within the customer ESN.		ESN Dialing Plan Calls to destinations outside the customer ESN and within the North American public network.	
What to Dial	Example	What to Dial	Example
ESN access code(s) + ESN location code + ESN node extension	6+ 393+ 2707	ESN access code + Numbering Plan Area + seven–digit DN	6+ 919+ 8335575
IDDD Dialing Plan Calls to destinations within the customer PN. This possibilty is provided by IDDD via ARS.		IDDD Dialing Plan Calls to destinations outside the customer PN and outside the North American public network.	
What to Dial	Example	What to Dial	Example
Network access code + IDDD access code + Country Code + National Number	6+ 011+ 44+ 628770770	Network access code + IDDD access code + Country Code + National Number	9+ 011+ 44+ 638770770

IDDD via ARS (continued)

Ignoring the prefix fence when using code restrictions

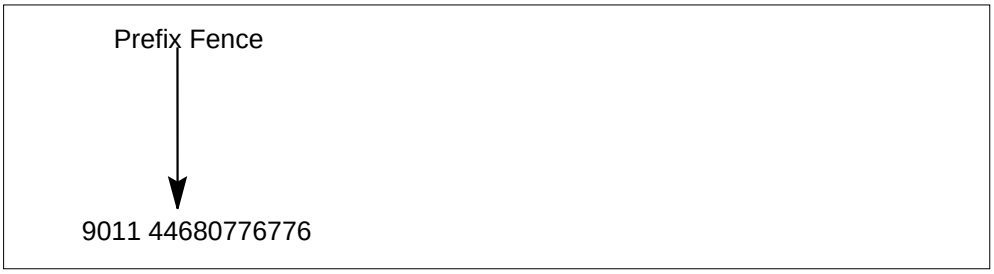
IDDD via ARS enhances the control of code restrictions by making the restriction of IDDD numbers simpler and easier to use. This is done by ignoring the prefix fence.

The prefix fence

Call translations uses a concept called a prefix fence during the translation of a call. A prefix fence is a location in a digit sequence that indicates the digits to be used in further translations.

The following figure illustrates a prefix fence located before the country code of an international number. Digits 9011 are not used in additional translations. Also, digits 9011 cannot be used to determine if code restrictions apply.

Prefix fence concept



Manipulating the prefix fence for code restrictions

The prefix fence is an important consideration to determine the digit sequences that can be used for code restrictions purposes. Code restrictions are checked after translations have proceeded through standard pretranslations. This means that if the prefix fence has moved before this point, those digits preceding the prefix fence are not be used for the determination of whether the call should be blocked.

Prior to IDDD via ARS, the two approaches to datafill for accessing the code restrictions for an entire IDDD number are as follows:

- Non-moving Prefix Fence: Entries in table STDPRTCT.STDPRT that route calls to International Partitioned Translations can be set up to prevent the prefix fence from moving. This is done by setting field NOPREDIG in the translation selector to 0. Doing this means the digits used to access international translations, 011 in most cases, are used for further translations. This means that all of the country codes specified in table CTCODE must be preceded by 011 for correct translations to take place.
- Country Code First: The first digits of the code restrictions tuple in table CODEBLK can be set up to be the country code (CC) of the international

number. Care must be taken to ensure that the digit sequence meant to restrict IDDD calls does not overlap with the digit sequences which are used for North American calls. This could result in unanticipated blockages or call completions.

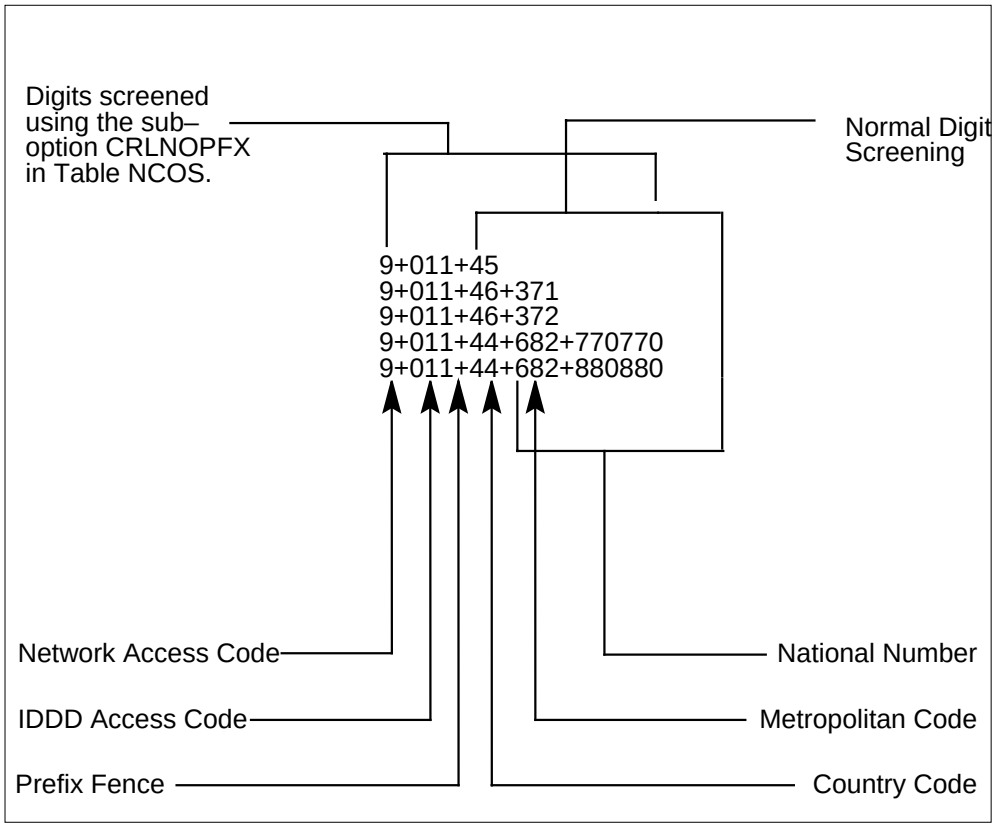
IDDD via ARS allows the prefix fence to be ignored for the purpose of applying code restrictions to IDDD via ARS calls. All the digits dialed can be used for the application of code restrictions. Ignoring the prefix fence is done through datafill in table NCOS. To ignore the prefix fence, suboption CRLNOPFX of option IDDDARS in table NCOS must be set to Y (yes).

The translations performed on the call are not affected by this feature. The prefix fence itself is not altered and is ignored only for the call specified with suboption CRLNOPFX.

The following figure illustrates the two different schemes used for screening of IDDD numbers. The two different schemes are: (1) without IDDD via ARS (normal digit screening) and (2) with IDDD via ARS (digits are screened using the suboption CRLNOPFX in table NCOS). Normal digit screening uses only those digits which follow the prefix fence. Code restrictions using option CRLNOPFX in table NCOS screen all the digits dialed by the user.

IDDD via ARS (continued)

Code restrictions with the option IDDDARS CRLNOPFX



Another point to consider when using option CRLNOPFX is the use of the RX selector in IBN translations. It is possible to enter IDDD translations after proceeding through retranslation. For the purposes of code restriction with the CRLNOPFX, all digits the user dials must be included in the code restrictions digit sequence. This must include those digits dialed before retranslation takes place.

Achieving higher call completion rates

IDDD via ARS allows a higher call completion rate by routing calls as far as possible within the PN before the call enters the public network.

IDDD access without IDDD via ARS

Without IDDD via ARS, all customer group members at a CENTREX office use the same dialing plan to complete IDDD calls. This dialing plan is as follows:

```
Dial:  Public Network access code +
                IDDD access code +
                Country Code +
                National Number
Example:  9 + 011 + 44 + 770770
```

After dialing the number, the call proceeds to the PN. Call blocking and processing of the IDDD numbers take place at the public network. The following figure illustrates IDDD access without IDDD via ARS for calls from two different customer groups attempting to reach the same international destination.

IDDD access using IDDD via ARS

Using IDDD via ARS, all customer groups at an MDC office may still use the same dialing plan to complete IDDD calls. This dialing plan is as follows:

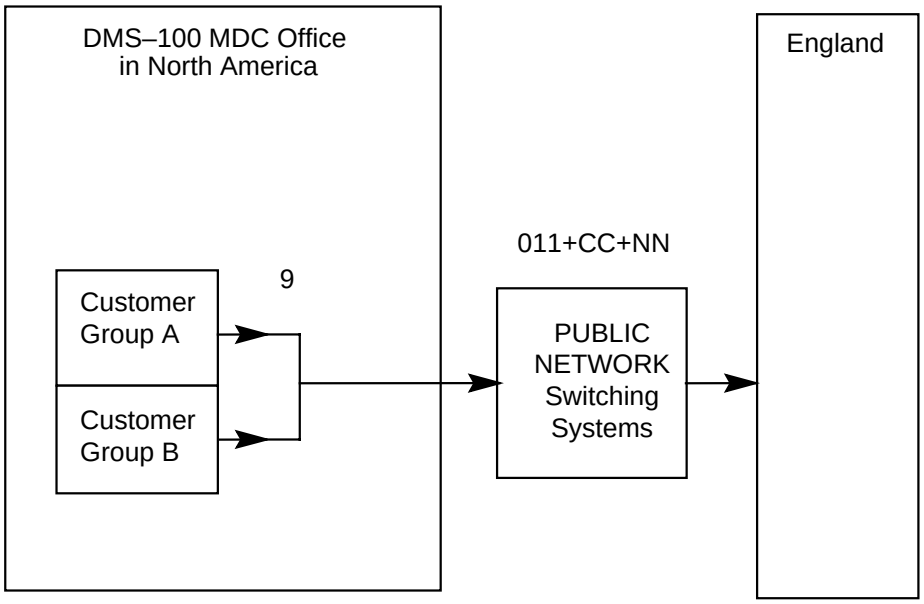
```
Dial:  Public Network access code +
                IDDD access code +
                Country Code +
                National Number
Example:  6 + 011 + 44 + 770770
```

After dialing the number, call blocking, application of code restrictions, and as much processing of the IDDD numbers as possible (translations) take place within the PN. The route each call takes in the PN depends upon the NCOS for each member of the customer groups. After processing the call in the PN, the call may proceed to the public network for routing to the international destination.

The following figure illustrates IDDD access using IDDD via ARS for calls from two different customer groups attempting to reach the same international destination.

IDDD via ARS (continued)

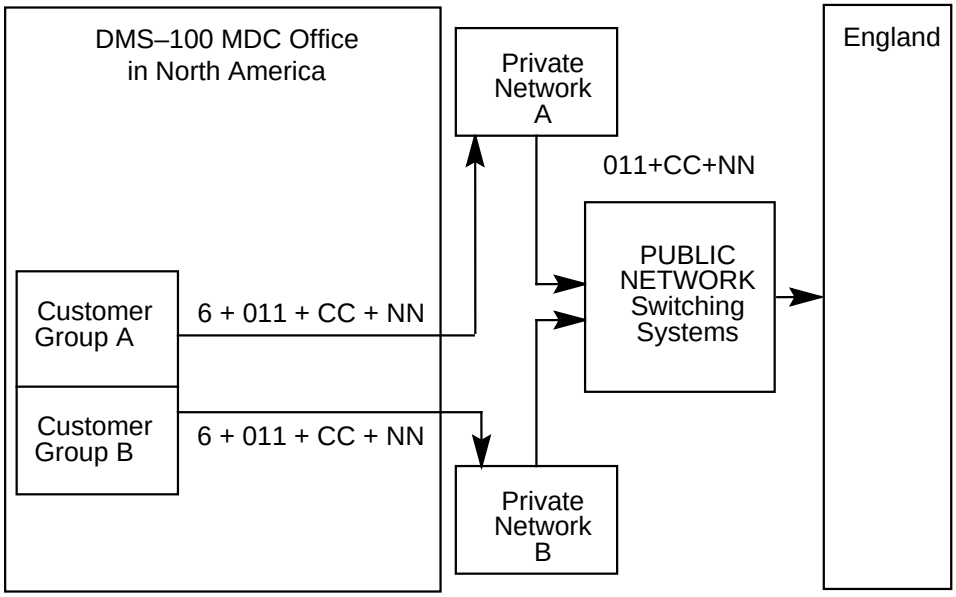
IDDD access for MDC customers without IDDD via ARS



9 – Public network access code
011 – IDDD access code
CC – Country Code (1 to 3 digits)
NN – National Number

CC + NN = Maximum of 15 digits
Example: 9 + 011 + 44 + 770770

IDDD access for MDC customers using IDDD via ARS



6 – Public network access code
011 – IDDD access code
CC – Country Code (1 to 3 digits)
NN – National Number (1 to 9 digits)

CC+NN = Maximum of 12 digits

Example: 6 + 011 + 44 + 770770

International MDC networking operations

IDDD via ARS improves networking operations for customers with international MDC networks. With IDDD via ARS, international call destinations can be routed with little or no use of the public network. With a PN node at the international call destination, the public network can be by-passed. Not using the public network saves money.

The following figure illustrates IDDD access using IDDD via ARS for calls from two different customer groups attempting to reach the different

IDDD via ARS (continued)

international destination in the same country using an international MDC network.

Making automatic route selection of IDDD calls

Translation names determine the route the call takes during MDC translations. Unique translation names can be used for each customer group. Using unique translation names allows calls for different customer groups to proceed through translations according to the needs of each individual customer.

The following three steps illustrate how IDDD via ARS provides automatic route selection for IDDD calls:

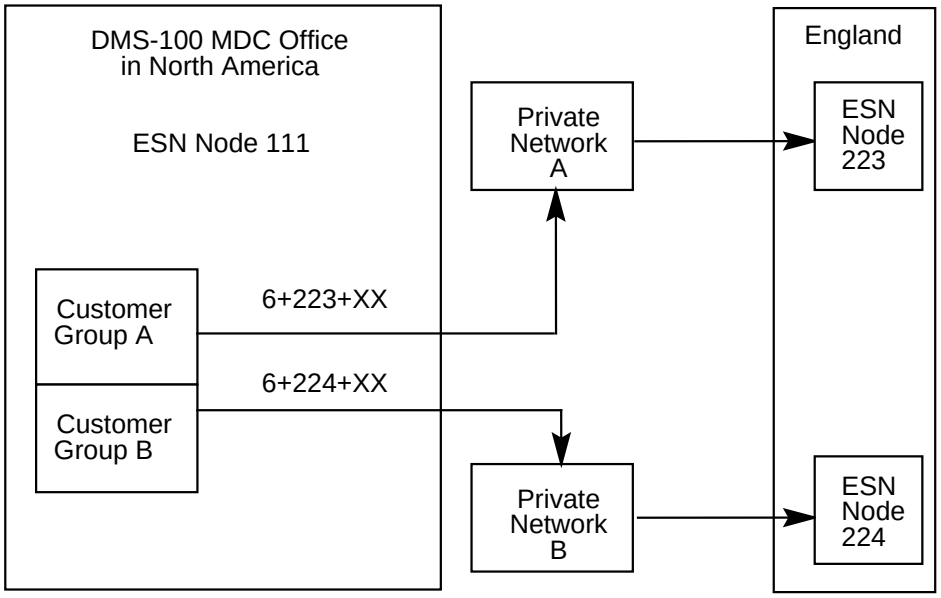
1. Translation names for individual customer groups are determined on an NCOS basis from table NCOS.
2. Using the translator name identified by the NCOS of the user, international translations are performed on the call until a route is chosen.
3. The route is referenced to a tuple in table IBNRTE. This tuple provides the ARS capabilities desired by the customer.

   Note: Table IBNRTE is not automatically partitioned on a per customer group basis. Therefore, it is possible for customers to share routes. When the needs of the individual customer groups differ, table IBNRTE must be manually partitioned.

IDDD via ARS Call Progression explains call routing further.

IDDD via ARS (continued)

IDDD access for MDC customers via ARS



6 – Private network access code
223 – ESN Node Number
224 – ESN Node Number
XX – Extension at the Node

Example: 6 + 223 + 1234

Providing access to IDDD via ARS

Access to IDDD via ARS, that is, IDDD calls using ARS through a customer PN, is controlled by the NCOS of an agent. An NCOS defines the access privileges of an agent within a network. An agent can be one of the following:

- MDC 500/2500 sets
- line appearances on a Meridian Business Set (MBS), an Integrated Services Digital Network (ISDN) set, or data unit

IDDD via ARS (continued)

- incoming or 2-way IBN trunk groups including Primary Rate Access (PRA)
- Virtual Facility Groups (VFG)
- Attendant Consoles (AC)

An NCOS is defined on a customer group basis. Therefore, each customer group within a network defines their own access privileges.

Providing access to IDDD via ARS for an agent

Access to IDDD via ARS is provided for agents by properly datafilling the table CUSTHEAD, table NCOS, and the agent tables. Table NCOS defines the access privileges for all customer groups on a DMS-100 node. Each customer group can have up to 256 NCOSs.

Many different NCOSs can be defined per customer group. This allows different levels of access to IDDD. Access to IDDD is defined when these values are datafilled in table NCOS:

- a translator name allowing access to IDDD
- routing features available (OHQ, CBQ, and ERWT)
- code restrictions (CRL).

An NCOS acts as a gateway to the translations required for IDDD access. Several other data tables must be appropriately datafilled to complete IDDD access. The following table lists the agent tables.

Description of agent tables

Table	Description
IBNLINES	IBN Line Assignment. Defines the characteristics of MDC 500/2500 sets.
KSETLINE	Business Set and Data Unit Line Assignment. Defines the characteristics of line appearances on a Meridian business set (MBS), Integrated Services Digital Network (ISDN) sets, and data units.
TRKGRP	IBN Trunk Groups. Defines the characteristics of trunk groups. G0050 is available only on incoming or 2-way IBN trunk groups.
ATTCONS	Attendant Console. Defines the characteristics of attendant consoles (AC).

IDDD via ARS (continued)

Each agent defined in an agent table requires an NCOS when datafilled. To activate IDDD via ARS, an NCOS with IDDD access privileges must be datafilled for that agent.

Providing access to IDDD via ARS using authorization codes

Authorization codes allow users to modify their NCOS for the duration of a call. If an agent does not have an NCOS which allows IDDD access privileges, an authorization code can be used to gain IDDD access privileges on a call-by-call basis. Authorization codes can be used as follows:

- dialing the authorization code prior to dialing the IDDD access digits
- dialing the authorization code after dialing the IDDD access digits
- contacting an attendant to input the authorization code before proceeding with the call.

In the following example, an agent trying to use an authorization code to access IDDD privileges has the following customer group setup.

Datafill	Description
0	NCOS of agent
15	Customer group NCOS with IDDD access
79	Authorization code feature access number
1234	Authorization code for NCOS 15

The agent has an NCOS of 0 which does not allow access to IDDD. NCOS 15 allows IDDD access. ACRP is the Authorization Code Request Prompt. The agent can gain access to IDDD by dialing one of the following scenarios.

Scenario	Digits dialed
Authorization Code First	79 + 1234 + 011 + CC + NN
Authorization Code Last	011 + CC + NN <ACRP> + 1234

IDDD via ARS (continued)

Removing access to IDDD via ARS

Access to IDDD via ARS can be removed as follows:

- Change the definition of an NCOS by removing the IDDD access privilege. This must be done on a customer group basis.
- Change the NCOS of an agent to one which does not have IDDD access privileges. This is accomplished by changing the NCOS of an agent in the agent tables.

IDDD via ARS call progression

The design of a route for a call and the translations used to route that call are numerous. For the purposes of this feature description, call progression is any translations required to route IDDD calls using ARS through a customer PN. The intent of this description is not to evaluate and describe all possibilities, but to show what is considered an effective method of routing IDDD calls using ARS. Translations is the process whereby dialed digits are converted into the system information necessary to route the call to its destination.

Each major area of translations is described in this section, along with an accompanying figure, to illustrate a major area of translations in greater detail. Example datafill values for the individual tables in the explanations relate to the two translations verification (TRAVER) examples at the end of this section.

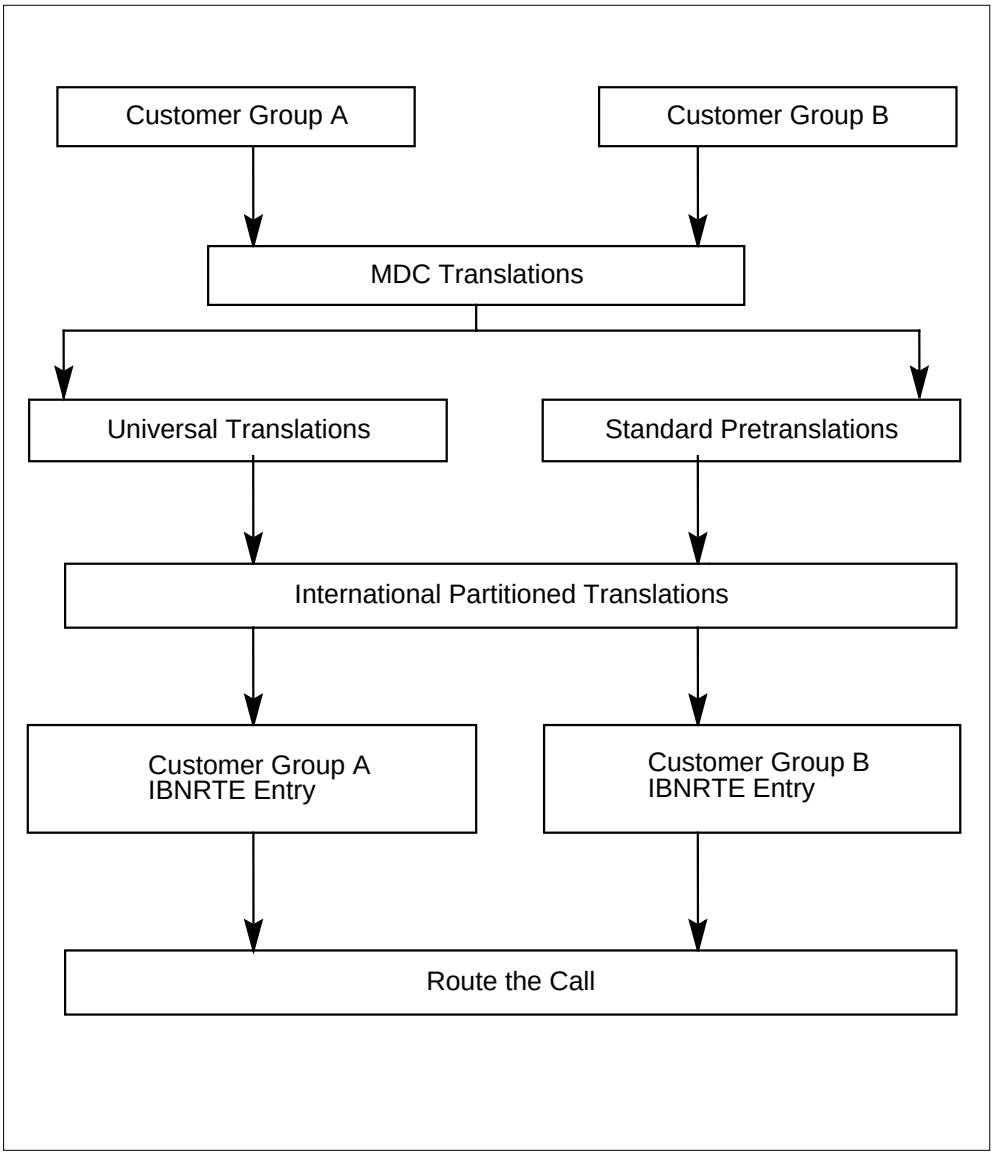
IDDD Access for MDC customers using IDDD via ARS figure illustrates the major areas of translations for an IDDD call using ARS. Although the digits dialed by agents in the different customer groups may be identical, the translation routes may be different. This same figure also illustrates two major paths for an IDDD call using ARS as described in this section.

The Universal Translations figure illustrates a TRAVER for the call using universal translations. The Standard Pretranslation illustrates a TRAVER for the call using standard pretranslations. The two TRAVERs show the call progression for an IDDD call using ARS.

Additional Translation Routing Possibilities describes some alternate routing possibilities.

Refer to *Basic Translations Tools Guide*, 297-1001-360, for more information about the TRAVER command. For information about international calling, refer to the data schema section of this document.

Overall translation route for IDDD calls using ARS



Understanding MDC translations

When the user dials digits, MDC translations begin. The IDDD Access for MDC Customers via ARS illustrates the table flow for IDDD calls using ARS from the agent tables to when either the universal translations or standard pretranslations begin.

Depending on the type of agent, one of the four agent tables are accessed. The Description of agents table describes the four agent tables.

IDDD via ARS (continued)

There are many fields in each table containing necessary information for translations. The values needed from these tables to determine agent access privileges is fields CUSTGRP and NCOS. (The customer group name is listed under field CUSTNAME in table TRKGRP.)

MDC translations occur as follows:

1. Table KSETLINE is accessed.
   a. CUSTESN is the value for field CUSTGRP.
   b. 10 is the value for field NCOS.
2. Table CUSTHEAD table is accessed. All fields are checked, but only the following fields concern call processing for an IDDD call using ARS.
   a. CUSTESN is the value for field CUSTNAME.
   b. The customer group translation name (CEIDD1) used during IBN translations is the value for field CUSTXLA.
   c. In the field OPTIONS, whether the options AUTH and ACCT are used.
3. Table NCOS is accessed. All fields are checked, but only the following fields concern call processing for an IDDD call using ARS.
   a. The NCOS number (10) is the value for field NCOS.
   b. The field OPTIONS is accessed.

Field OPTIONS contains all the NCOS option values for subfield NCOSOPTN and its associated subfields. Subfield NCOSOPTN has the following subfields: XLAS, OCTXLA, CRL, ERWT, ACR, CBQ, OHQ, ATT, AVP, FLSHXLA, and IDDDARS. The subfields that must be datafilled for IDDD calls using ARS are as follows:

1. Subfield XLAS is accessed for the information in subfield PRELIMXLA.

The name of the preliminary translator (CEIDD1) is the PRELIMXLA subfield value assigned to the NCOS number. The default value NXLA cannot be used.

1. If features CRL, ERWT, ACR, CBQ, OHQ, ATT, or AVP are desired, each subfield has the same value as the subfield name. Subfields for each feature desired also must be datafilled.
2. IDDDARS is the value for subfield IDDDARS. Field IDDDARS has subfield CRLNOPFX. Its value can be either Y or N. IDDD via ARS introduces subfield IDDDARS.

IDDD via ARS (continued)

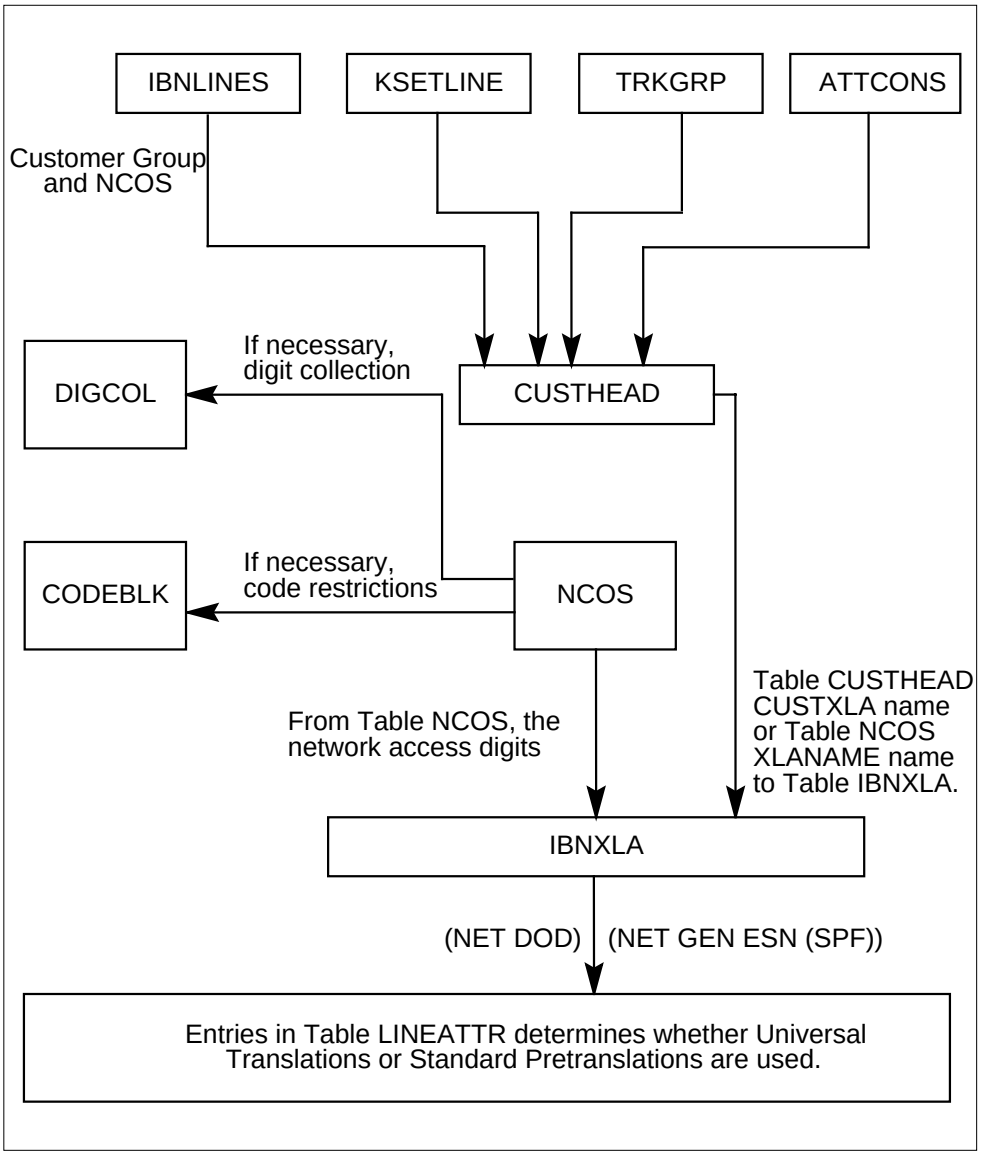
3. If a code restriction level is identified for an NCOS, table CODEBLK is accessed to determine the impact of the code restriction. IDDD via ARS makes the number of digits that can be entered for the digit string three to 18.
4. Table DIGCOL is accessed to determine how digit collection is to proceed after the first digit is dialed. The digit collector name from table CUSTHEAD or table NCOS is used to determine the correct tuple in table DIGCOL.
5. Table IBNXLA is accessed. All fields are checked, but only the following fields concern call processing for an IDDD call using ARS.
   a. The ROUTE selector of table IBNXLA may be used only for digit streams with a maximum of 25 digits. The supported method for implementing translations in excess of 25 digits in table IBNXLA is via the NET selector.
   b. The key field is made up of the fields XLANAME and DGLIDX.
      i. Because an IDDD call uses access codes, the XLANAME in table NCOS (CEIDD1) points to this value in table IBNXLA.
      ii. The number dialed to access the network (6) is the DGLIDX field value.
   c. Field RESULT has the following subfields: TRSEL, ACR, SMDR, NOACDIGS, SDT, DGCOLNM, CRL, INTRAGRP, NETTYPE, and OPTION. All the subfields are checked, but only the following subfields concern call processing for an IDDD call using ARS.
      i. NET is the value for subfield TRSEL.
      ii. GEN or DOD can be the values for subfield NETTYPE.
      iii. When GEN is the value for subfield NETTYPE, subfield OPTION can have the following values:
6. ESN. This value is optional.
7. SPF for saving the prefix digits dialed. This value is optional.
8. LATTR is the line attribute index and an index number (10) to table LINEATTR. The index and index number are required.

IDDD via ARS (continued)

9. When the NETTYPE subfield value is Direct Outward Dial (DOD), the line attribute index number (21) to table LINEATTR is the value for subfield LINEATTR. See the following figure for this example value.
10. The call proceeds to either universal translations or standard pretranslations. The value in field PRTNM, table LINEATTR, determines whether universal translations or standard pretranslations is used.

    Note: “Understanding universal translations" and the following figure describe universal translations. “Understanding standard pretranslations" describes standard pretranslations.

MDC translation route for IDDD call using ARS



Understanding universal translations

After MDC translations are completed, either universal translations or standard pretranslations are performed. The following figure illustrates universal translations for an IDDD call using ARS. The following figure contains example field values shown here. Universal translations are performed as follows:

IDDD via ARS (continued)

Table LINEATTR is accessed.

1. Table LINEATTR has many fields. All the fields are checked, but only the following fields concern call processing for an IDDD call using ARS.
   a. The line attribute index number (21) is the value for field LAIDX. The index number is the key field for table LINEATTR. All the attributes of a line in table LINEATTR are keyed to the index number.
   b. The Service Numbering Plan Area (SNPA) (919) from which the call is being made is the value for field STS.
   c. NPRT is the value for field PRTNM.
   d. Field IXNAME, the following subfields have the following values:
      i. PX is the value for field XLASYS.
      ii. The index name (CTUXLA) to table PXHEAD and table PXCODE is the value for field XLANAME. The system needs data from both tables to continue with translations.
2. Table PXHEAD is accessed. All fields are checked, but only the XLANAME field value concerns call processing for an IDDD call using ARS. The index name (CTUXLA) is the value for field XLANAME.

   Note: If the digits dialed are not found in the table PXCODE, table PXHEAD specifies what action the switch is to take. This could entail looping back through table LINEATTR again for another translation system value and back to table PXCODE or to another system treatment.

3. Table PXCODE is accessed.
   a. The index name (CTUXLA) is in field XLANAME.
   b. The lower end of the range of digits that must be received by the switch before dial tone is returned for continued dialing (011) is the value for field FROMD.
   c. The upper end of the range of digits that must be received by the switch before dial tone is returned for continued dialing (011) is the value for field TOD.
   d. CONT is the XLADATA field value. Field XLADATA has subfield OPT. Subfield OPT has many additional subfields. All the subfields are checked, but only subfield OSEL concerns call processing for an

IDDD via ARS (continued)

IDDD call using ARS. XLT is the value for subfield OSEL. Subfield OSEL has the following subfields:

i. The translation system (CT) is the value for subfield XLASYS.

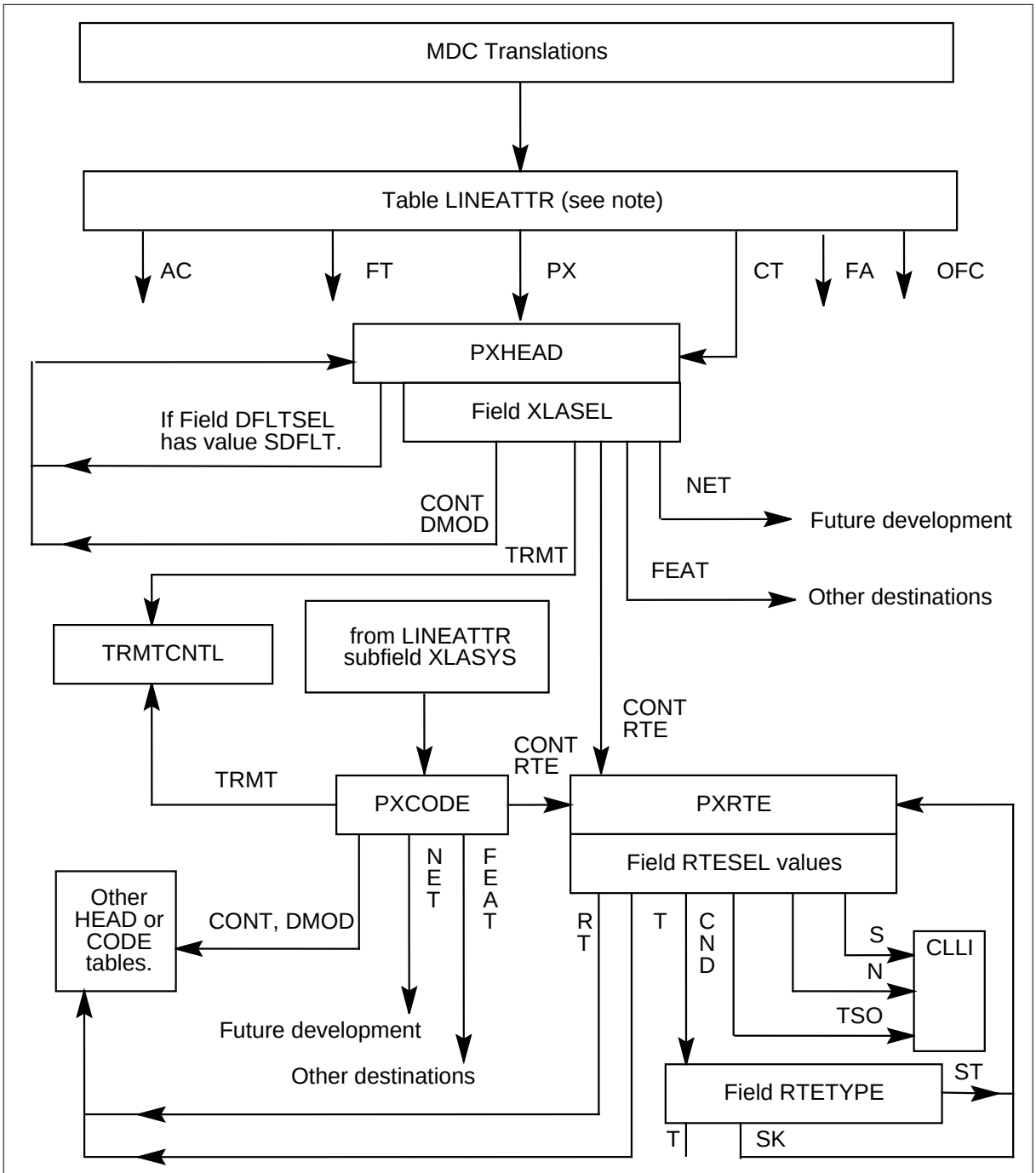
ii. The translation system name (CTCTPN) is the value for subfield XLANAME.

The translation system and name map to tables CTHEAD and CTCODE.

4. The call is routed to international partitioned translations. “Understanding international partitioned translations" and the following figure show international partitioned translations.

IDDD via ARS (continued)

Universal translations



Note: In Table LINEATTR, no pretranslator is specified. Field IXNAME has PX as the XLASYS subfield value and the name of an international translator in the XLANAME subfield.

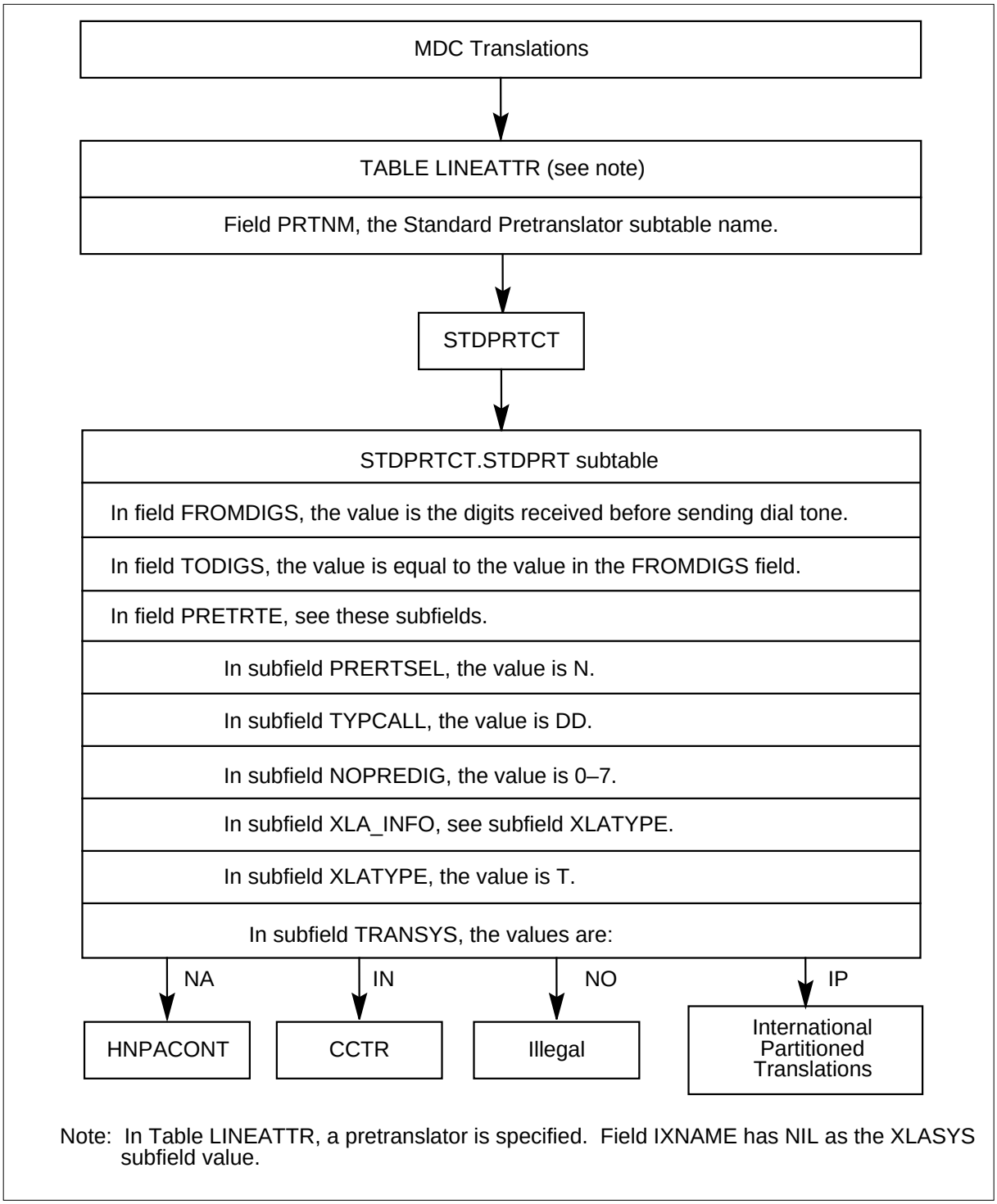
Understanding standard pretranslations

After MDC translations are completed, either universal translations or standard pretranslations are performed. The following figure illustrates standard pretranslations for an IDDD call using ARS. The following figure shows the field values shown here. Standard pretranslations are performed as follows:

1. Table LINEATTR is accessed. All fields are checked, but only field PRTNM concerns call processing for an IDDD call using ARS. The name of the standard pretranslator subtable (PEID) is the value for field PRTNM.
2. Table STDPRTCT is accessed. This table lists the standard pretranslator subtable names.
3. Table STDPRTCT.STDPRT is accessed. All fields are checked, but only the following fields concern call processing of an IDDD call using ARS.
   a. The lower end of the range of digits, that must be received by the switch before dial tone is returned for continued dialing (011), is the value for field FROMDIGS.
   b. The upper end of the range of digits, that must be received by the switch before dial tone is returned for continued dialing (011), is the TODIGS field value.
   c. Field PRETRTE field and its subfields are accessed.
      i. N is the value for subfield PRERTSEL.
      ii. DD is the value for subfield TYPCALL.
      iii. The range of values for the Number Of Prefix Digits (NOPREDIG) is 0 to 7. One value (3) must be datafilled.
      iv. T is the value for subfield XLATYPE, and IP is the value for subfield TRANSYS.
      v. IP routes the call to international partitioned translations.
4. The call proceeds to international partitioned translations. “Understanding international partitioned translations" and the following figure describe international partitioned translations.

IDDD via ARS (continued)

Standard pretranslation



Understanding international partitioned translations

After either universal translations or standard pretranslations are completed, international partitioned translations are performed. International partitioned translations are performed as follows:

1. One of the following procedures begins international partitioned Translations:
   a. If universal translations were performed, table CTHEAD is accessed using the translation system and name found in table PXCODE.
   b. If standard pretranslations were performed, the NCOSOPTN subfield in table NCOS is accessed to determine if that option was used.
      i. If in table NCOS, subfield CRLNOPFX is set to Y, table PRTN2CCD is accessed for the translations system name used to determine the correct tuple in table CTHEAD.
      ii. If in table NCOS, subfield CRLNOPFX is set to N, table STS2CCDB is accessed for the translations system name (PIED) used to determine the correct tuple in table CTHEAD.
2. Table CTHEAD is accessed. All fields are checked, but only field XLANAME concerns call processing for an IDDD call using ARS. The index name (PIED) is the value for field XLANAME.

   Note: If the digits dialed are not found in the table CTCODE, table CTHEAD specifies what action the switch is to take. This could entail looping back through table LINEATTR again for another translation system value and back to table CTCODE or to another system treatment.

3. Table CTCODE is accessed.
   a. The index name (PIED) is in field XLANAME.
   b. The lower end of the range of digits, that must be received by the switch before dial tone is returned for continued dialing (44), is the value for field FROMDIGS.
   c. The upper end of the range of digits, that must be received by the switch before dial tone is returned for continued dialing (44), is the value for field TODIGS.
   d. RTE is the value for field XLADATA.
      i. Field XLADATA contains the subfield OPT. This subfield has many additional subfields. All the subfields are checked, but

IDDD via ARS (continued)

only the subfield OSEL contains call processing for an IDDD call using ARS.

ii. DEST followed by an index number (2) is the value for subfield OSEL.

This value is the destination route index to table CTRTE. When a destination route is found, international partitioned translations are terminated.

4. Table CTRTE is accessed. All fields are checked, but only the following fields concern call processing for an IDDD call using ARS.

   a. The index name (PIED) is in field XLANAME.

   b. The route reference name (2) is the value for field RTEREF. This is the number from the subfield OSEL in table CTCODE.

   c. Field RTELIST has subfield RTESEL and supporting subfields as follows:

      i. If there are not time-of-day conditions, the value is *T*.

      ii. If there are time-of-day conditions, the value is CND. The following fields are accessed:

         a. TOD is the value for field CNDSEL.

         b. The name of the Time-of-Day (TOD) system assigned in table TODHEAD is the value for field TODNAME.

         c. The times when the transfer to another route list or element can occur as defined in table TIMEODAY is the Times Set (TIMES) field value.

         d. For field CONDRTE, subfield RTETYPE has the value T.

      iii. IRTE is the value for subfield TABNAME.

      iv. Translation system (CT) is the value for subfield XLASYS.

      v. Translation name index is the value for subfield XLANAME.

      vi. Reference number (2) to table IBNRTE is the value for subfield RTEREF.

5. The call proceeds to table IBNRTE for routing.

   The ARS routes are determined by the datafill in table IBNRTE. If a route is not available in table IBNRTE, alternate route selection is available by looping the call to table CTRTE.

Example TRAVER of a call using standard pretranslations

The figure titled Traver using standard pretranslations shows a TRAVER of a call routed using standard pretranslations.

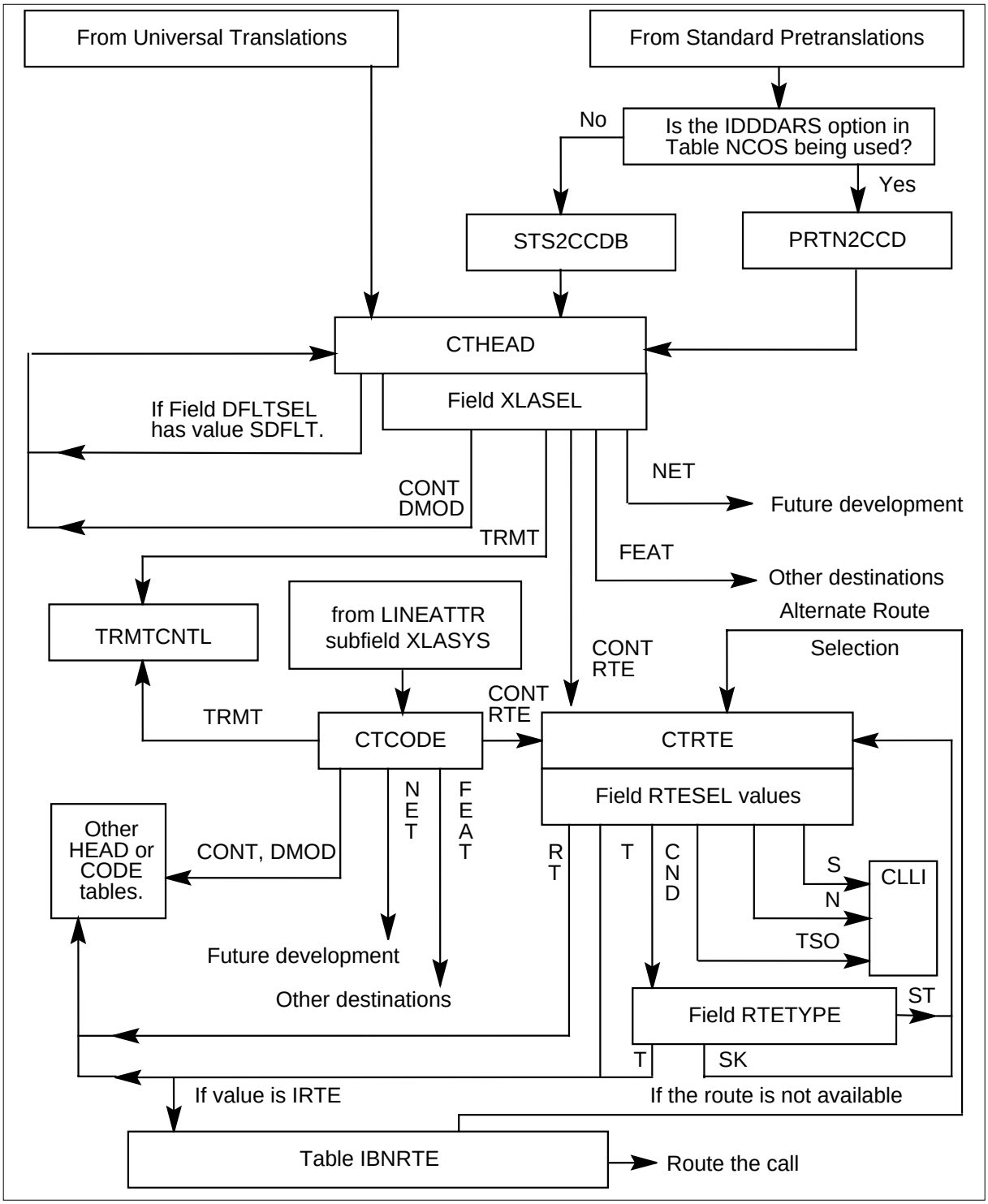
In this TRAVER, a member at 666+3111 of customer group CUSTESN has dialed 6+011+44+682+770770. This member has an NCOS of 10. The call is going to England (CC is 44) over an ESN.

The results of the TRAVER indicate that if an outgoing trunk is available, trunk CESNIDDD44 is tried first. If CESNIDDD44 is unavailable, trunk DDDENG is tried. The call is routed out of the originating office.

IBNRTE 2 should do digit manipulation and insert 6011 before outpulsing digits to the next office.

IDDD via ARS (continued)

International partitioned translations



TRAVER using standard pretranslation

```
TRAVER L 6663111 '601144682770770' B
TABLE KSETLINE
HOST 0 0 1 2 1 DN Y 6663111 CUSTESN 0 10 919 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE NCOS
CUSTESN 10 0 0 CEIDD1 (IDDDARS N) $
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA CUSTXLA, FEATXLA, VACTRMT
                AND DIGCOL
CUSTESN NXLA CEXL NXLA NDGT
TABLE DIGCOL
TUPLE NOT FOUND
TABLE IBNXLA: XLANAME CEIDD1
CEIDD1 6 NET N Y 0 N NDGT N Y GEN (LATTR 10) (SPF) (ESN) $
TABLE DIGCOL
NDGT specified: digits collected individually
TABLE LINEATTR
10 IBN NONE NT 0 919 PEID L919 TSPS N 10 NIL NILSFC LATA1 00
   NIL NIL 00
TABLE STDPRTCT
PEID ( 1) ( 0)
 . SUBTABLE STDPRT
 . 6011 6011 N DD 3 IP
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS: NONE N
TABLE PRTN2CCD
PEID PEID
TABLE CTHEAD
PEID DFLT (TRMT VCCT) $ DFOP $ NOCON B
THE DIGITS TO INDEX THE NEXT TABLE ARE 44682770770
TABLE CTCODE
PEID 44 44 RTE (PF 0) (MM 7 12) (DEST 2) $
TABLE: CTRTE
KEY: PEID 2
 . T IBNRTE 2
 .   . TABLE IBNRTE
 .   .    2 S CESNIDDD44
 .   . EXIT TABLE IBNRTE
 . S DDDENG
EXIT TABLE CTRTE
```

(continued)

IDDD via ARS (continued)

TRAVER using standard pretranslation (continued)

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

DIGIT TRANSLATION ROUTES
1 CESNIDDD44 682770770
2 DDDENG     682770770
TREATMENT ROUTES. TREATMENT is: GNCT
1 *OFLO
2 LKOUT
+++ TRAVER: SUCCESSFUL CALL TRACE +++
                       (end)
```

Example TRAVER of a call using universal translations

The following figure shows a TRAVER of a call routed using universal translations.

In this TRAVER, a member at 777+2222 of customer group CUSTTTTN has dialed 6+011+44+682+770770. This member has an NCOS of 11. The call is going to England (CC is 44) using the public dialing plan.

The results of the TRAVER indicate that if an outgoing trunk is available, route 4 of IBNRTE - trunk CTTTNIDDD44, the call is routed out of the originating office.

IBNRTE 4 must effect digit manipulation, and insert the digits needed to traverse the TTTN network along with 011, if the call is to leave the TTTN.

TRAVER using universal translations

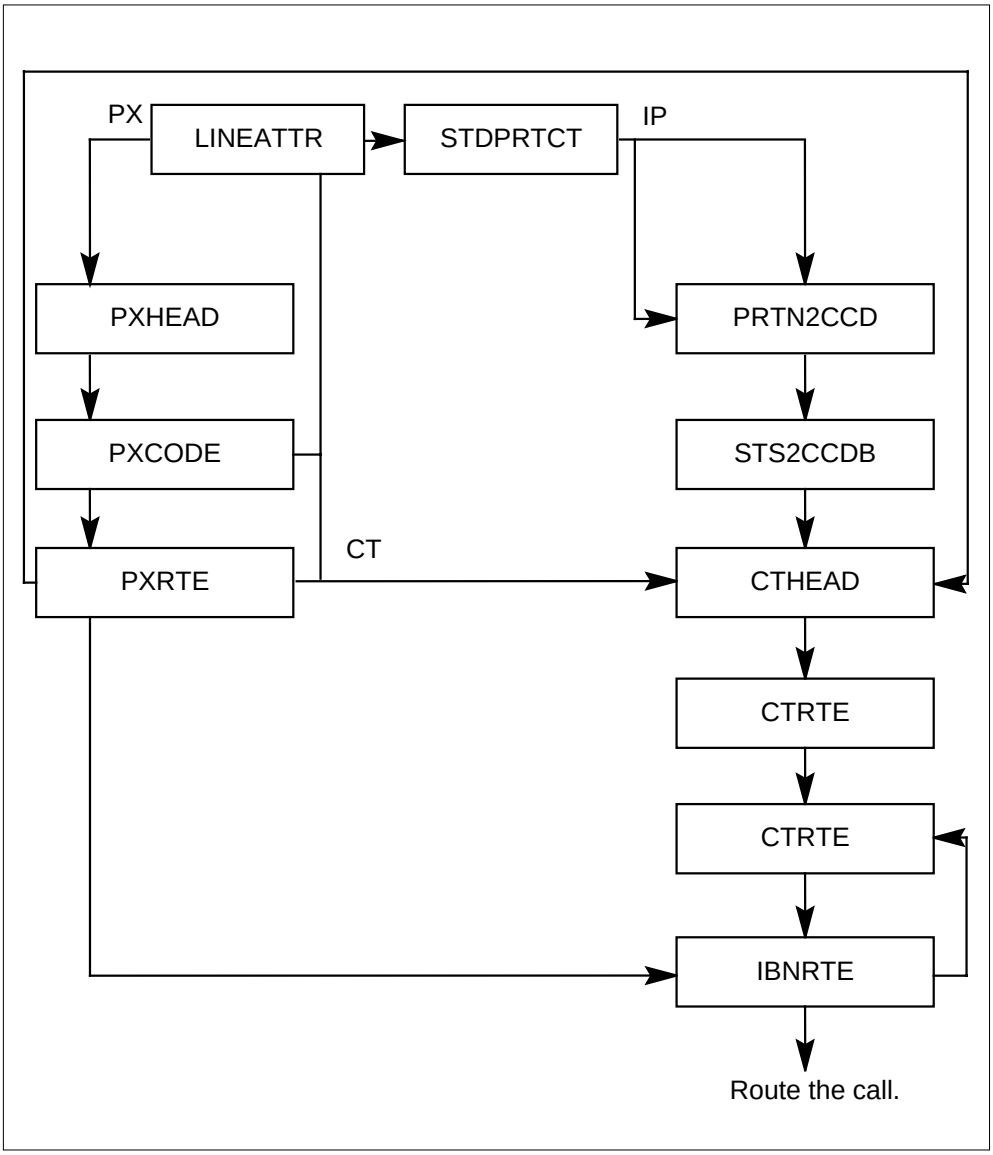
```
TRAVER L 7772222 '601144682770770' B
TABLE IBNLINES
HOST 1 0 0 3 DT MDN SCA Y Y IBN 7772222 CUSTESN 0 11 919 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE NCOS
CUSTTTTN 11 0 0 CTIDD2 (IDDDARS N) $
TABLE CUSTHEAD:CUSTGRP, PRELIMXLA CUSTXLA, FEATXLA, VACTRMT
                AND DIGCOL
CUSTTTTN NXLA CTXL NXLA NDGT
TABLE DIGCOL
TUPLE NOT FOUND
TABLE IBNXLA: XLANAME CTIDD2
CTIDD2 6 NET N Y 0 N NDGT N Y DOD N 21 NONE
TABLE DIGCOL
NDGT specified: digits collected individually
TABLE LINEATTR
21 IBN NONE NT 0 919 NPRT NLCA NONE N 10 NIL POTS NILLATA 0
   PX CTUXLA NTRS02 00
TABLE PXHEAD
CTUXLA DFLT TRMT (OFC VACT)$ NODFOP NOCON B
THE DIGITS USED TO INDEX THE NEXT TABLE ARE: 01144682770770
TABLE PXCODE
CTUXLA 011 011 CONT (PF 3) (MM 6 15) (XLT CT CTCTPN) $
TABLE CTHEAD
CTCTPN DLFT (TRMT VCCT) $ DFOP $ NOCON B
THE DIGITS TO INDEX THE NEXT TABLE ARE 44682770770
TABLE CTCODE
CTCTPN 44 44 RTE (PF 0) (MM 7 12) (DEST 2)$
TABLE: CTRTE
KEY: CTCTPN 2
 . T IBNRTE 4
 .  . TABLE IBNRTE
 .  .    4 S CTTTNIDDD44
 .  . EXIT TABLE IBNRTE
EXIT TABLE CTRTE

+++ TRAVER: SUCCESSFUL CALL TRACE +++

DIGIT TRANSLATION ROUTES
1 CTTTNIDDD44 44682770770
TREATMENT ROUTES. TREATMENT is: GNCT
1 *OFLO
2 LKOUT
+++ TRAVER: SUCCESSFUL CALL TRACE +++
```

IDDD via ARS (continued)

Additional translation routing possibilities

The design of a route for a call and the translations used to route that call are numerous. The intent of this section was not to evaluate and describe all possibilities, but to show what is considered an effective method of routing IDDD calls using ARS.

Additional translation routing possibilities



Translations table flow

IDDD via ARS does not affect translations table flow.

Limitations and restrictions

The following limitations and restrictions apply to IDDD via ARS:

- A maximum of 30 digits can be outpulsed on a trunk. This maximum includes the key pulse (KP) and ST digits used in multifrequency (MF) outpulsing. The 30-digit maximum places a restriction on the number of digits which can be inserted into a digit stream as a result of digit manipulation.
- Two stage outpulsing is required for the outpulsing of more than 15 digits (13 digits for MF signaling). This means that a maximum of 30 digits (28 digits MF signaling) may be outpulsed for an IDDD via an ARS call.
- The maximum number of digits that can be:
  - — dialed by the user is 24. If more than 24 digits are dialed, the extra digits are ignored.
  - — dialed by a Direct Inward System Access (DISA) originator is 18. If more than 18 digits are dialed, the user is given no acknowledgement (NACK) treatment. This is a limitation on all DISA calls.
  - — screened by code restrictions is 18. If more than 18 digits are dialed, the extra digits are ignored.
  - — activated by Call-Back Query (CBQ) is 18.
  - — used in international partitioned translations after the prefix fence is 18.
- When datafilling tables STDPRT and CODEBLK to accommodate international numbers, the interactions of code restrictions with translations must be taken into account.
- Because of real time limitations, it is not recommended that the translations for IDDD via ARS be passed through more than once during the life of a call. This means that IDDD via ARS calls which route through VFGs should not have the VFG call pass thru IDDD via ARS translations again. If using a VFG, set up the VFG so that it is passed through at the earliest point in translations.

Interactions

The following paragraphs describe the interactions between IDDD via ARS and other functionalities.

The following features interact with IDDD via ARS:

- Authorization Codes. IDDD via ARS allows the Authorization Codes feature to be used when IDDD calls are made.
- Automatic Route Selection (ARS). IDDD via ARS allows the Automatic Route Selection feature to be used when IDDD calls are made.

IDDD via ARS (continued)

- Call-Back Queueing (CBQ). IDDD via ARS allows the Call-Back Queueing feature to be used when IDDD calls are made.
- Code Restrictions. IDDD via ARS allows the Code Restrictions feature to be used when IDDD calls are made.
- Expensive Route Warning Tone (ERWT). IDDD via ARS allows the Expensive Route Warning Tone feature to be used when IDDD calls are made.
- Off-Hook Queueing (OHQ). IDDD via ARS allows the off-Hook Queueing feature to be used when IDDD calls are made.

Activation/deactivation by the end user

IDDD via ARS requires no activation or deactivation by the end user.

Billing

IDDD via ARS does not affect billing.

Station Message Detail Recording

IDDD via ARS does not affect Station Message Detail Recording.

Datafilling office parameters

IDDD via ARS does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement IDDD via ARS. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for IDDD via ARS (Sheet 1 of 2)

Table	Purpose of table
NCOS	Network Class of Service. This table contains Network Class of Service (NCOS) numbers that are assigned to ACs, IBN or Residential (RES) stations, incoming or incoming side of two-way IBN trunk groups, authorization codes, and customer groups.
CODEBLK	Code Blocking. This table contains the data for restricting outgoing calls to specific direct outward dial, electronic switching network, OUTWATS or private network numbers.
Note: Either table PRTN2CCD or STS2CCDB require datafill, depending on the datafill in table NCOS. Both tables need not be datafilled for IDDD via ARS to function properly.	

Datafill tables required for IDDD via ARS (Sheet 2 of 2)

Table	Purpose of table
PRTN2CCD (Note)	Pretranslator to CC Translator Name. This table contains the mapping from the Pretranslator Name to the Country Code (CT) Translator Name.
STS2CCDB (Note)	Serving Translation Scheme. Table Serving Translation Scheme (STSTONET) provides a mapping between an STS and Network Information (NETINFO) parameter fields, Network ID, Network Customer group ID, and Network Class of Service (NCOS).
Note: Either table PRTN2CCD or STS2CCDB require datafill, depending on the datafill in table NCOS. Both tables need not be datafilled for IDDD via ARS to function properly.	

Datafilling table NCOS

Table NCOS (Network Class of Service) contains Network Class of Service (NCOS) numbers that are assigned to ACs, IBN or Residential (RES) stations, incoming or incoming side of two-way IBN trunk groups, authorization codes, and customer groups.

The following table shows the datafill specific to IDDD via ARS for table NCOS. Only those fields that apply directly to IDDD via ARS are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table NCOS

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		see subfields	Options. This field consists of subfield NCOSOPTN.
	NCOSOPTN	IDDARS	NCOS Option. This subfield specifies the options assigned to the NCOS. Enter IDDDARS. ***Note:*** If NCOSOPTN is set to IDDARS, subfield CRLNOPFX requires datafill.
	CRLNOPFX	Y or N	Code Restriction Level No Prefix. This subfield specifies whether prefix digits are screened. Enter Y or N.

Datafill example for table NCOS

The following example shows sample data entry for table NCOS.

IDDD via ARS (continued)

MAP display example for table NCOS

```
CUSTGRP   NCOS   NCOSNAME    LSC   TRAFSNO
                                                OPTIONS
_____________________________________________________________
CUSTESN   10     CEIDD1      0     0
                                   (XLAS CEXL NXLA NDGT)
                                   (CRL 3 ALLOWED)
                                   (IDDDARS N)
                                    $
CUSTESN   11     CEIDD2      0     0
                                   (XLAS CEXL NXLA NDGT)
                                   (OHQ 0 ANNCMENT)
                                   (ERWT)
                                   (IDDDARS Y)
                                    $
```

Data entry for table CODEBLK

Table CODEBLK (Code Blocking) contains the data for restricting outgoing calls to specific direct outward dial, electronic switching network, OUTWATS or private network numbers. The access codes for these call types in entered in table IBNXLA.

The following table shows the entries specific to IDDD via ARS for table CODEBLK. Only those fields that apply directly to IDDD via ARS are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table CODEBLK (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
CRLKEY		see subfields	Code Restriction Level Key. This field consists of subfields CUSTOMER, NUMBER, SELECTOR, and OPTION.
	CUSTOMER	see subfields	Customer. This subfield specifies the customer group that is assigned the code restriction. Enter a name.
	NUMBER	3 to 18	Number. This subfield specifies a 3- to 18-digit number to which code restriction is applicable. Enter a number.

Datafilling table CODEBLK (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	SELECTOR	GEN	General. This entry is the default for the SELECTOR subfield.
CRLDATA		1 to 15	Code Restriction Level Data. This field specifies the code restriction levels (CRL) that are applicable to the number. Each CRL is assigned a number from 1 to 15 that must be separated by a blank space.
	OPTION	ANN	Announcement. You can use this option for entering a custom announcement for GEN. ANN allows you to enter an announcement and the common language location identifier (CLLI) of the announcement.
		TRMT	Treatment. You can use this option for entering a treatment and an extended treatment for GEN. The default routes restricted calls to a vacant (VACT) treatment. The default is a $.

Data entry example for table CODEBLK

The following example shows sample data entry for table CODEBLK.

MAP display example for table CODEBLK

```
CODEBLK
                                        CRLKEY

                                                   CRLDATA
_____________________________________________________________________
COMKODAK                    6211091
                                                (GEN ( 3)$$)$
          CUSTESN             9011465551212
                                                (GEN ( 4)$$)$
          CUSTTTN             9011465551212
                                                (GEN ( 4)$$)$
```

Datafilling table PRTN2CCD

Table PRTN2CCD (Pre-translator to CC Translator Name) contains the mapping from the Pre-translator Name to the Country Code (CT) Translator Name. This mapping is required to maintain the customer group translations

IDDD via ARS (end)

partitioning begun in MDC translations. This partitioning is given to the international partitioned translations.

The following table shows the required data entry to IDDD via ARS for table PRTN2CCD. Only fields that apply directly to IDDD via ARS are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table PRTN2CCD

Field	Subfield or refinement	Entry	Explanation and action
PRTN		pre-translator name	Pre-translator Name. This field specifies the pretranslator name. Enter the pre-translator name.
TRANNAME		translator name	CT Translator Name. This field specifies the translator name. Enter the translator name.

Data entry example for table PRTN2CCD

The following example shows sample data entries for table PRTN2CCD.

MAP display example for table PRTN2CCD

```
              PRTN                                    TRANNAME
 ____________________________________________________________________
              POTS                                         NIL
```

Translation verification tools

IDDD via ARS does not use translation verification tools.

SERVORD

IDDD via ARS does not use SERVORD.

Killer Trunk Report Separation

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS19 and up

Prerequisites

To operate, Killer Trunk Report Separation has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

When continuous service interruptions occur in trunks, the killer trunk (KT) feature automatically shuts down the problem trunk. Killer Trunk Report Separation is an option that enables the operating company or end user to print reports about the trunk that was shut down.

In Killer Trunk Report Separation, the problem report is sent to a file for either the operating company or the end user, depending on the type of trunk ownership. Only operating companies have access to an additional option that displays the KT report online. This option is also available with this feature.

The report is handled through a device-independent recording package (DIRP). The DIRP requires continuous, automatic recording, data transferrals, and device selection. Parallel or duplicate files of the records in the DIRP should not be kept.

The report provides information based on peg and usage counts for the trunk or trunk group. Once the information has been collected, the information is transferred to the DIRP. Reports are prepared by using the log system. The report is then forwarded to the trunk owner that was previously selected.

With the addition of the selection capability, the type of information produced has changed slightly. Holding times for trunks are no longer recorded since this information can be obtained through other information contained in the reports. With this feature, the downstream processor detects the types of trunks so those trunks for which no information is available are omitted from the report. This elimination includes IBN trunks and all trunks with counts of zero.

Killer Trunk Report Separation (continued)

Operation

Killer Trunk Report Separation provides fast and efficient storage of information gathered during the KT process. Four types of reports are generated in the DIRP file. These are as follows:

- System event record. This report contains information on the basic problem that activated the KT feature. Information provided in this record includes record type, event code, and time of event.
- KT report record. This report outlines the DMS parameters used to generate the report. Contents of this record are record type, report sequence, time, index, start time, stop time, report interval, peg minimum, HT maximum, SR maximum, ntrunks, report type, and mode.
- Data record. This report contains precise information recorded during the process for each trunk member. Information provided includes record type, trouble type, state, trunk group number, trunk member number, peg counts, and usage counts.
- End of report. This report is generated after the reports listed previously and contains record type, report sequence, time, and end of report. This report appears at the end of each report time interval.

To provide reports on the trunk to the owner (either the operating company or the end user), Table OFCVAR (variable office) parameter must be datafilled. The ownership of the trunk is defined by entering the common language location identifier (CLLI) for either the operating company or the end user.

Translations table flow

Killer Trunk Report Separation does not affect translations table flow.

Limitations and restrictions

The following limitations and restrictions apply to Killer Trunk Report Separation:

Killer Trunk Report Separation is designed to allow the customer to order reports if the trunk is customer-owned. The information the feature provides includes continuous, automatic recording requirements, required data transferral files, and required device selection. The KT information found in the DIRP reports is noncritical and should be datafilled to provide only one file. Parallel or duplicate files are not recommended.

Interactions

This feature operates when the KT process begins, and another set of reports is initiated. The reports are generated at the same interval defined in the KT feature. There is no additional feature interaction.

Activation/deactivation by the end user

Activation is handled by operating company personnel only. Operations personnel can select any of the types of reports previously mentioned. All reports are printed on the trunk owner's equipment. The end user also has the ability to use KTBIND and KTUNBIND to add KT to or delete KT from the DIRP.

The end user has access to the data records that include the trouble type. The actual counts and trunk types can also be used to calculate the type of trouble. The information contained in the reports is partitioned on a customer group basis and is sent to a downstream processor that is identified by trunk ownership. Trunk group identification comes from the CLLI number in Table CLLI); for example, C2C2 blocks from the SMDR stream can be used.

Operating company operations personnel must be able to control the information flow for this feature. To provide this capability, three commands from the command interpreter (CI) prompt are added. The new commands are KTDUMP, KTBIND, and KTUNBIND.

- KTDUMP. With this option, operating personnel can display the information gathered in a KT report. Two examples of the forms the information takes follow the introduction.
- KTBIND. This command lets the end user datafill the DIRP and is used when the subsytem goes through initial startup and has been removed from the DIRP. When the end user proceeds with feature startup, a warm reboot is required.
- KTUNBIND. When the end user needs to remove the KT from the DIRP, the KTUNBIND command is entered. To remove the KT from the DIRP, however, the datafill in Table DIRPSSYS (DIRP Subsystem) must first be deleted. If an end user intends to reinstate the KT in the DIRP (called a nil DIRP bind), KTBIND must be executed. Once the table is datafilled for the second time, a warm reboot is required.

When the command KTDUMP is selected from the CI prompt, several parameters must be filled for the process to begin. The first parameter is the filename that tells the DIRP the KT result file from which to pull the information. The range parameter has valid entries of ALL and SUBRANGE. If ALL is selected, every record in the file is displayed. If SUBRANGE is selected, all records between the low and high values are displayed. The low and high values are 0 and 32,627, respectively. A third parameter is available to indicate the type of report requested. If SUMMARY is selected, a summary of the records is displayed. The second option is HEX, which displays the information in hex form. If no option is selected, a default for a complete report is displayed.

Killer Trunk Report Separation (continued)

To generate a summary report, several commands must be executed. Examples of these commands are as follows:

- > **KTDUMP kt2 range 1 10 summary**
- > **KTDUMP kt2 all summary**

A summary report, like the example that follows, prints if one of these commands is selected.

Blk#	Rcd#	Record Type	Date	Time
1	1	System Record Rotate Incoming	850529	11:23:03
2	2	Report Record	850529	12:05:35
2	3 - 4	Data Record		
2	5	End Report	850529	12:06:25
3	6	Report Record	850529	13:05:05
3	7 - 8	Data Record		
3	9	End Report	850529	13:05:57
4	0	System Record Rotate Outgoing	850529	15:00:23

If the operating company chooses a complete report, a printout similar to the one that follows appears. To achieve this report, commands similar to the following must be entered:

- > **KTDUMP kt1 all**
- > **KTDUMP kt1 range 1 3**

```
Block # : 13      Block length : 32
xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx
xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx xx
```

If the first command is selected, all available reports for the file are printed. If the second command is entered, only the subrange of reports is printed.

```
Report Generation Date 28/10/1985     11  40  32

ALL Trunks        Peg Count  Usage_Cnt  Hold_Time   Trouble       State
                  >  1000                  >     5        Killer Trunk
                                           >   450        Slow Release

OTWAON52CG01   450       10       400        40     Always Idle   CPB
               451      300       600         2     Killer Trunk  CPB
               452        5      5000      1000     Slow Release  IDL
```

The following is an example of a HEX dump. In this example, the xx represents a hexadecimal number that is equal to 1 byte of information. To print this report, one of the following commands must be entered:

- **>KTDUMP kt3 all hex**
- **> KTDUMP kt3 range 1 3 hex**

Billing

Killer Trunk Report Separation does not affect billing.

Station Message Detail Recording

Killer Trunk Report Separation does not affect Station Message Detail Recording.

Datafilling office parameters

The following table shows the office parameters used by Killer Trunk Report Separation. For more information about office parameters, refer to *Office Parameters Reference Manual*.

Office parameters used by Killer Trunk Report Separation

Table name	Parameter name	Explanation and action
OFCVAR	KT_SELECTION_OPTION	Specifies peg and usage counts for a selected set of trunk groups. Enter NO_DATA, ALL_DATA, TELCO_DATA, or CUST_DATA. The default value is ALL_DATA.

Killer Trunk Report Separation (continued)

Datafill sequence

The following table lists the tables that require datafill to implement Killer Trunk Report Separation. The tables are listed in the order in which they are to be datafilled.

By datafilling the table with the appropriate information, selective reports can be ordered on the KT. The KT group is either operating-company or customer-owned, and reports include all information with proper datafilling.

Datafill tables required for Killer Trunk Report Separation

Table	Purpose of table
DIRPPOOL	DIRP Pool Table
DIRPSSYS	DIRP Subsystem Table

Datafilling table DIRPPOOL

Table DIRPPOOL (DIRP Pool) contains the collection, or pool, of recording devices allocated to each contributing subsystem. Table DIRPPOOL can contain up to 32 pools, and each pool can contain up to 24 recording volumes. Each entry in Table DIRPSSYS points to a pool in Table DIRPPOOL. Each pool in Table DIRPPOOL can be referenced by only one contributing subsystem.

The following table shows the datafill specific to Killer Trunk Report Separation for table DIRPPOOL. Only those fields that apply directly to Killer

Killer Trunk Report Separation (continued)

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

Datafilling table DIRPPOOL

Field	Subfield or refinement	Entry	Explanation and action
POOLNO		0 to 63	Pool Number. This field specifies the value to represent the index number for the recording pool. Enter a value from 0 to 63. ***Note:*** Pools 0 to 62 are available for operating company use. Pool 63 is reserved for internal use.
POOLNAME		alphanumeric	Pool Name. This field specifies the 1- to 8-character alphanumeric string to define the name of the pool. Enter the pool name. ***Note:*** This is the name by which Table DIRPSSYS indexes into Table DIRPPOOL.
DEVTYPE		NIL, TAPE, TAPEX, DPP, or DISK	Device Type. This field specifies the device type for the pool. Enter NIL, TAPE, TAPEX, DPP, or DISK.
VOLUME0 to VOLUME23		alphanumeric or $	Volume 0 through Volume 23. These fields specify the 1- to 8-alphanumeric character volume names to specify the volumes assigned within the pools. Enter the pool name or $ where no volumes are assigned.

Datafill example for table DIRPPOOL

The following example shows sample datafill for table DIRPPOOL.

Killer Trunk Report Separation (continued)

MAP display example for table DIRPPOOL

```
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  AMAPOOL  REGULAR  DISK       $     $     $     $
   $      $       $       $      $     $     $       $
   $      $       $       $      $     $     $       $
   $      $      $       $
```

Datafilling table DIRPSSYS

Table DIRPSSYS (DIRP Subsystem) contains the operating parameters of each contributing subsystem. Table DIRPSSYS can contain up to 24 subsystems. These include Automatic Message Accounting (AMA), operational measurement (OM), and journal file (JF) by default, and (depending on the DMS feature configuration) up to 21 other contributing recording streams.

The following table shows the datafill specific to Killer Trunk Report Separation for table DIRPSSYS. Only those fields that apply directly to Killer Trunk Report Separation are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table DIRPSSYS (Sheet 1 of 4)

Field	Subfield or refinement	Entry	Explanation and action
SSYSNAME		AMA, DLOG, JF, KT, OM, SMDR, TTRF, or a valid subsystem	Subsystem Name. This field specifies the 1- to 4-character alphanumeric subsystem name that serves as the index into Table DIRPSSYS. Enter AMA, DLOG, JF, KT, OM, SMDR, TTRF, or a valid subsystem.
READRITE		Y or N	Read After Write. This field specifies whether to enable read/write checking for data being written to device type TAPE or DISK (not TAPEX). Enter Y or N.
NUMFILES		1 to 4	Number of Files. This field specifies the number of subsystem files that can be open at any given time. Enter a value from 1 to 4.

Killer Trunk Report Separation (continued)

Datafilling table DIRPSSYS (Sheet 2 of 4)

Field	Subfield or refinement	Entry	Explanation and action
MINFILES		0 to 3	Minimum Number of Files. This field specifies the minimum number of files that must be open at all times. Enter a value from 0 to 3.
POOLNAME		alphanumeric	Pool Name. This field specifies the collection, or pool, of volumes available to a contributing subsystem. Enter the 1- to 8-character alphanumeric pool name.
FILENAME		file name or $	File Name. This field specifies the 1- to 17-character alphanumeric file name. Enter the file name or enter $ to have the system generate a file name.
ALARM0		CR, MJ, MN, or NA	File Alarm0. This field specifies the alarm level when no files are open. Enter CR for critical, MJ for major, MN for minor, or NA for no alarm.
ALARM1		CR, MJ, MN, or NA	File Alarm1. This field specifies the alarm level when one file is open. Enter CR for critical, MJ for major, MN for minor, or NA for no alarm.
ALARM2		CR, MJ, MN, or NA	File Alarm2. This field specifies the alarm level when two files are open. Enter CR for critical, MJ for major, MN for minor, or NA for no alarm.
ALARM3		CR, MJ, MN, or NA	File Alarm3. This field specifies the alarm level when three files are open. Enter CR for critical, MJ for major, MN for minor, or NA for no alarm.
RETPD		0 to 499	Retention Period in Days. This field specifies the retention period in days. Enter a value from 0 to 499.
CRETPD		0 to 499	Retention Period (in Days) for Copied-to Files. This field specifies the retention period in days for copied-to files. Enter a value from 0 to 499.
PARLPOOL		AMAPARL, DLOGPARL, JFPARL, OMPARL, or $	Parallel Pool. This field specifies the parallel pool name. Enter AMAPARL, DLOGPARL, JFPARL, OMPARL, or $.

Killer Trunk Report Separation (continued)

Datafilling table DIRPSSYS (Sheet 3 of 4)

Field	Subfield or refinement	Entry	Explanation and action
PARCONC		Y or N	Parallel and Normal Recording Occur Concurrently. This field specifies whether concurrent recording is required as a backup. Enter Y or N.
MANDPALM		NA, MN, MJ, or CR	Mandatory Parallel Alarm. This field specifies the option to raise an audible alarm when the parallel file is not in the AVAIL state. Enter NA for no alarm, MN for minor alarm, MJ for major alarm, or CR for critical alarm.
FILEDATE		OPENED, FIRSTACT, LASTACT, or CLOSED	File Date. This field specifies how the system automatically redates the file. Enter OPENED to place the file name date/time stamp on the file when the file is first opened, FIRSTACT to update the date/time stamp on the file the first time the file becomes active, LASTACT to update the file name each time the file becomes active, or CLOSED to update the file name when the file is finally closed.
SHEDDAYS		Y or N	Scheduled Rotation Days. This field specifies the days of the week on which the end user schedules rotations. For each day of the week, enter Y or N.
SHEDBASE		0 to 23	Schedule Rotation Base. This field specifies the hour of the date on which the first rotation occurs. Enter a value from 0 to 23.
SHEDINCR		X1, X2, X3, X4, X6, X8, X12, X24, or NOROTATE	Scheduled Rotation Increments. This field specifies the number of hours between scheduled rotations, using the first rotation as a base. Enter X1, X2, X3, X4, X6, X8, X12, X24, or NOROTATE.

Killer Trunk Report Separation (continued)

Datafilling table DIRPSSYS (Sheet 4 of 4)

Field	Subfield or refinement	Entry	Explanation and action
ROTACLOS		NONE, SROTATE, MROTATE, or BOTH	Rotate Close. This field specifies options for closing the file after a scheduled or manual rotation is completed. Enter NONE (do not close files automatically after rotation), SROTATE (close files after completion of scheduled rotation, if possible), MROTATE (close files after completion of manual rotation, if possible), or BOTH (close files after both scheduled and manual rotations, if possible).
AUTOXFER		NONE, NOKEEP, PARTIAL, or FULL	Automatic Transfer. This field specifies the disposition of closed DIRP files. Enter NONE, NOKEEP, PARTIAL, or FULL.
SPACROTE		Y or N	Space Rotation. This field specifies whether the space rotation feature is used in DIRP when the recording space in the ACTIVE file becomes low. Enter Y or N.
MAXDFSIZ		5 to 64	Maximum Disk File Size. This field specifies the maximum size for DIRP disk files in Mbytes. Enter a value from 5 to 64.
PRIORTIO		Y or N	Priority I/O File. This file specifies whether to have the files associated with a given subsystem marked as high-priority (non-erasable). Enter Y or N.

Datafill example for table DIRPSSYS

The following example shows sample datafill for table DIRPSSYS.

MAP display example for table DIRPSSYS

```
SSYNAME READRITE NUMFILES MINFILES POOLNAME  FILENAME
ALARM0 ALARM1 ALARM2 RETPD CRETPD PARLPOOL PARCONC
MANDPALM FILEDATE SHEDDAYS SHEDBASE SHEDINCR ROTACLOS
AUTOXFER SPACROTE MAXDFSIZ PRIORTIO
_____________________________________________________________
 KT      Y      2      1 KTPOOL         DMS100       CR
MJ
NA     NA    30    30 KTRKPARL     N    NA  OPENED    NNNNNNN
     0 NOROTATE  NONE  NONE      N     64         Y
```

Killer Trunk Report Separation (end)

Translation verification tools

Killer Trunk Report Separation does not use translation verification tools.

SERVORD

Killer Trunk Report Separation does not use SERVORD.

MAP Alarm Level Screening

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS19 and up

Prerequisites

To operate, MAP Alarm Level Screening has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The MAP Alarm Level Screening feature enables customers who own trunks to access top-level alarms at their operating centers. The alarm information alerts customers to problems within the trunk subsystem where their trunks are located. Not all alarms related to the trunks owned by the customer can be viewed in the MAP (maintenance and administration position). Customers who own their trunks and are not an operating company are described as general owners.

General owners can view the trunks and office alarms online and can take corrective action when problems arise. Once a craftsperson at the general owner's facility has been alerted to a problem, he or she can access the trunk test position (TTP) and begin making adjustments to correct operational problems.

The alarm level threshold is set for each trunk group in table CLLIMTCE (Common Language Location Identifier Maintenance). Log reports TRK101, TRK102, and TRK103 give an alarm level change on a per trunk group basis.

Operation

When Customer Screening at the Trunk Test Position (BC1467) was introduced in BCS18, the feature restricted those who could access the MAP display of high-level alarms. The top-level subsystem alarms for non-operating company users was blanked. The remaining levels were also blanked. Only operating company personnel had access to the MAP displays on trunk and office alarms.

The top-level alarm is restricted to trunks under nonoperating company ownership. For each top-level alarm on a trunk subsystem, there are two fields.

MAP Alarm Level Screening (continued)

The first field contains the highest alarm class and the number of trunks in that alarm class. The second field has office alarm information about the trunk group.

The level of the trunk group alarms is defined by class. The following list shows the alarms, beginning with the least severe and progressing to the most critical:

- no alarm
- group has manual busy trunks
- group has EXT busy trunks
- group has machine busy trunks
- group has exceeded its minor alarm threshold
- group has exceeded its major alarm threshold
- group has exceeded its critical alarm threshold

The office alarm levels caused by trunk group alarm levels are defined by class. The four levels of alarms are listed below, from least serious to critical:

- no alarm
- minor alarm
- major alarm
- critical alarm

The following table shows how the various alarms on the trunk level and the office level relate.

Trunk group alarm	Office alarm
No alarm	No alarm
Group has manual busy trunks	No alarm
Group has EXT made busy trunks	No alarm
Group has machine busy trunks	No alarm
Group has exceeded minor alarm threshold	Minor alarm
Group has exceeded major alarm threshold	Major alarm
Group has exceeded critical alarm threshold	Critical alarm

When a craftsperson identifies a problem in the top-level display of the MAP, he or she proceeds to the TTP level. The information is related through the trunks status (TRKS STAT) level of the MAP.

At this level, the trunk status is displayed to the general owner but only for the trunks it owns. The information displayed will be main level, trunk group status display, and sublevel trunk status display. The main level displays the troubled trunk group. The sublevel identifies the members within that group.

Translations table flow

MAP Alarm Level Screening does not affect translations table flow.

Limitations and restrictions

The following limitations and restrictions apply to MAP Alarm Level Screening:

- MAP Alarm Level Screening is available only to general owners. This feature is a required enhancement to the Customer Screening at the TTP feature. Customer screening at the TTP is an optional feature.
- The MAP display available to the general owner will include only information about the trunks it owns. This restriction applies to top level trunk alarms as well as subsystem alarms and status alarms.

Interactions

The following paragraphs describe the interactions between MAP Alarm Level Screening and other functionalities.

- Customer Screening at the Trunk Test Position (TTP). These two features are tied together. MAP Alarm Level Screening cannot operate without TTP Screening being part of the system.
- Enhanced Command Screening. MAP Alarm Level Screening interacts with Enhanced Command Screening by using its command screening facility to protect the switch from unauthorized actions by the customer.

Activation/deactivation by the end user

The available trunk group status display options are DispGrp_, NextGrp_, HCpyGrp_, and Item. The DispGrp_ selection will show only owned trunk groups. NextGrp_ will show owned trunk groups. HCpyGrp_ allows the information that caused the KT feature to be printed, but the printout is of owned trunks only. If Item is selected, no screening is necessary.

Trunk status display options are DispTrk, NextTrk, HcpyTrk, SelGrp_, DisAlm_, and PrtAlm_. The only command that causes screening is SelGrp_. The screening takes place when the CLLI of the trunk subsystem is entered.

MAP Alarm Level Screening (continued)

The only command affected by this feature is option SelGrp_ at the trunk status MAP level. If an owner does not have access to the trunk which has been entered in the command, a message appears. The new message, TEST ACCESS DENIED, will be returned to the owner who enters an incorrect common language location identifier (CLLI). The system will screen for the proper CLLI when a new trunk group is entered as an option.

Billing

MAP Alarm Level Screening does not affect billing.

Station Message Detail Recording

MAP Alarm Level Screening does not affect Station Message Detail Recording.

Datafilling office parameters

MAP Alarm Level Screening does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement MAP Alarm Level Screening. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for MAP Alarm Level Screening

Table	Purpose of table
CLLIMTCE	Common Language Location Identifier Maintenance. This table contains the trunk group CLLI for each hardware group and the percentage of trunks or service circuits which can be removed from service before a specific type of alarm is displayed for a given CLLI

Datafilling table CLLIMTCE

Table CLLIMTCE (Common Language Location Identifier Maintenance) contains the trunk group CLLI for each hardware group and the percentage of trunks or service circuits which can be removed from service before a specific type of alarm is displayed for a given CLLI.

The following table shows the datafill specific to MAP Alarm Level Screening for table CLLIMTCE. Only those fields that apply directly to MAP Alarm

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

Datafilling table CLLIMTCE

Field	Subfield or refinement	Entry	Explanation and action
CLLI		alphanumeric CLLI name	Common Language Location Identifier. This field specifies the code in the CLLI table assigned to the trunk group by the operating company. Enter an alphanumeric CLLI name.
MINALM		1 to 101	Minor Alarm. This field specifies a minor alarm indication and the percentage of out-of-service trunks in the trunk group which activates the minor alarm. Enter a value from 1 to 101.
MAJALM		1 to 101	Major Alarm. This field specifies a major alarm indication and the percentage of out-of-service trunks in the trunk group which activates the major alarm. Enter a value from 1 to 101.
CRITALM		1 to 101	Critical Alarm. This field specifies a critical alarm indication and the percentage of out-of-service trunks in the trunk group which activates the critical alarm. Enter a value from 1 to 101.

Datafill example for table CLLIMTCE

The following example shows sample datafill for table CLLIMTCE.

MAP display example for table CLLIMTCE

```
CLLI     SCLLI   MINALM  MAJALM  CRITALM  SYNCTYPE
TSTNOIND  MWIDX  SIGTST  PRFXDIGS
_____________________________________________________
OTWAON23  OCOESS  10      30      50       SYN
0   0        Y        8
```

Translation verification tools

MAP Alarm Level Screening does not use translation verification tools.

SERVORD

MAP Alarm Level Screening does not use SERVORD.

MDC Enhanced WATS

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: MDC00034

Release applicability

BCS29 and up

Prerequisites

To operate, MDC Enhanced WATS has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- EQA Local, EQA00001

Description

Meridian Digital Centrex (MDC) Enhanced WATS provides expanded capabilities to outward wide area telephone service (OUTWATS), in the MDC environment. The enhancements introduced by this feature are designed to allow the central office to provide better service to wide area services (WATS) subscribers and to the carriers that offer WATS.

The existing MDC OUTWATS feature IBN Class 5 Pseudo OUTWATS is not altered in any way. This is done to allow the existing WATS package NTX112AB, and the new Enhanced WATS package to reside within the same office. This allows a smooth transition into the Enhanced WATS service.

MDC Enhanced WATS is dependent on the Equal Access End Office (EAEO) software package. The older WATS package remains the standard WATS package for those offices not offering equal access (EA) to their subscribers.

Operation

The enhanced outward WATS (EOW) selector is used for MDC Enhanced WATS calls. MDC Enhanced WATS allows the customer to choose different interexchange carriers to handle their OUTWATS calls. The EOW selector provides for screening of WATS traffic coming through the route and directing the traffic through different virtual facility groups (VFG) depending on the carrier and called band. This is achieved by specifying a carrier and a band set in the route. This route is then screened for the authorization to route particular WATS traffic.

The EOW selector also provides a method of routing to a VFG for retranslation. All routes that use the EOW route selector are forced to route to a VFG for the purposes of retranslation, billing, and imposing limits on WATS traffic originating from a customer group.

MDC OUTWATS enhancements

MDC Enhanced WATS provides the following enhancements to MDC OUTWATS Service:

- A maximum of five carriers can be assigned to an MDC customer per the GENeral NETwork translator. These will be the carriers which the customer has subscribed to carry its OUTWATS traffic. Each presubscribed carrier will have an associated band set that will detail the bands to which the customer has access to per that carrier.
- A new route selector, EOW, designates the call as an Enhanced WATS call. This will be used to route the call to a VFG for retranslation. This is the only mechanism which forces a call to be considered an EOW call prior to routing through the VFG. The EOW route selector is in table IBNRTE. Note, however that the VFG must still reference a line attribute in table LINEATTR that has a line class code (LCC) of EOW or ETW (enhanced two-way WATS) in order for the call to be considered an enhanced WATS call during retranslation out of the VFG.
- The carrier for an MDC Enhanced WATS call is known as a WATS InterExchange Carrier (WIC). The WIC is determined in the first leg of translations prior to retranslating out of the VFG. That is, the EOW selector designates a WIC for retranslations to use. The line and group Primary InterExchange Carriers (PIC) do not have any impact on the choice of a WIC. The two mechanisms are distinct and separate.
- Automatic Route Selection (ARS) out of table IBNRTE can be based on carrier as well as called digits. This enables similar routing capabilities as the current MDC OUTWATS package allows out of table IBNRTE, except it is extended to include the WIC and does not require that an Enhanced WATS Access Code be dialed to enable it.
- The customer can optionally be permitted to complete intra-LATA and Service Access Code (SAC) WATS calls. This is provided on a translator basis in table IBNXLA.
- The called band is determined by using the Serving Translation Scheme (STS) that is listed in the Line Attribute associated with the VFG. This is the Enhanced WATS solution to the problem of having an STS on the first leg of the call that is not a valid serving numbering plan area (SNPA). The

MDC Enhanced WATS (continued)

STS for the virtual facility (second leg of the call) is assumed to be a valid SNPA.

- WATS InterExchange Carrier Choice can optionally be provided to the customer on a translator basis. This will allow dialing patterns to be established which allow 10XXX dialing to a pre-defined set of WATS InterExchange Carriers.

Band screening enhancements

This feature provides the following enhancements to Band Screening:

- A new range of OUTWATS band numbers from 0 to 126.
- Band set assignments are based upon user defined keys instead of SNPA codes. This permits band sets to be assigned on a selective basis.
- Bands can be defined for different carriers allowing different band schemes on a per carrier basis.
- Band screening of inter-LATA WATS calls from an Enhanced WATS facility can optionally be disabled on a carrier basis.

> ***Note:*** The Enhanced WATS feature and the MDC Enhanced WATS feature use the term band in place of the term zone, used by the older WATS package.

In an MDC Enhanced WATS call, there will be two sets of translations performed:

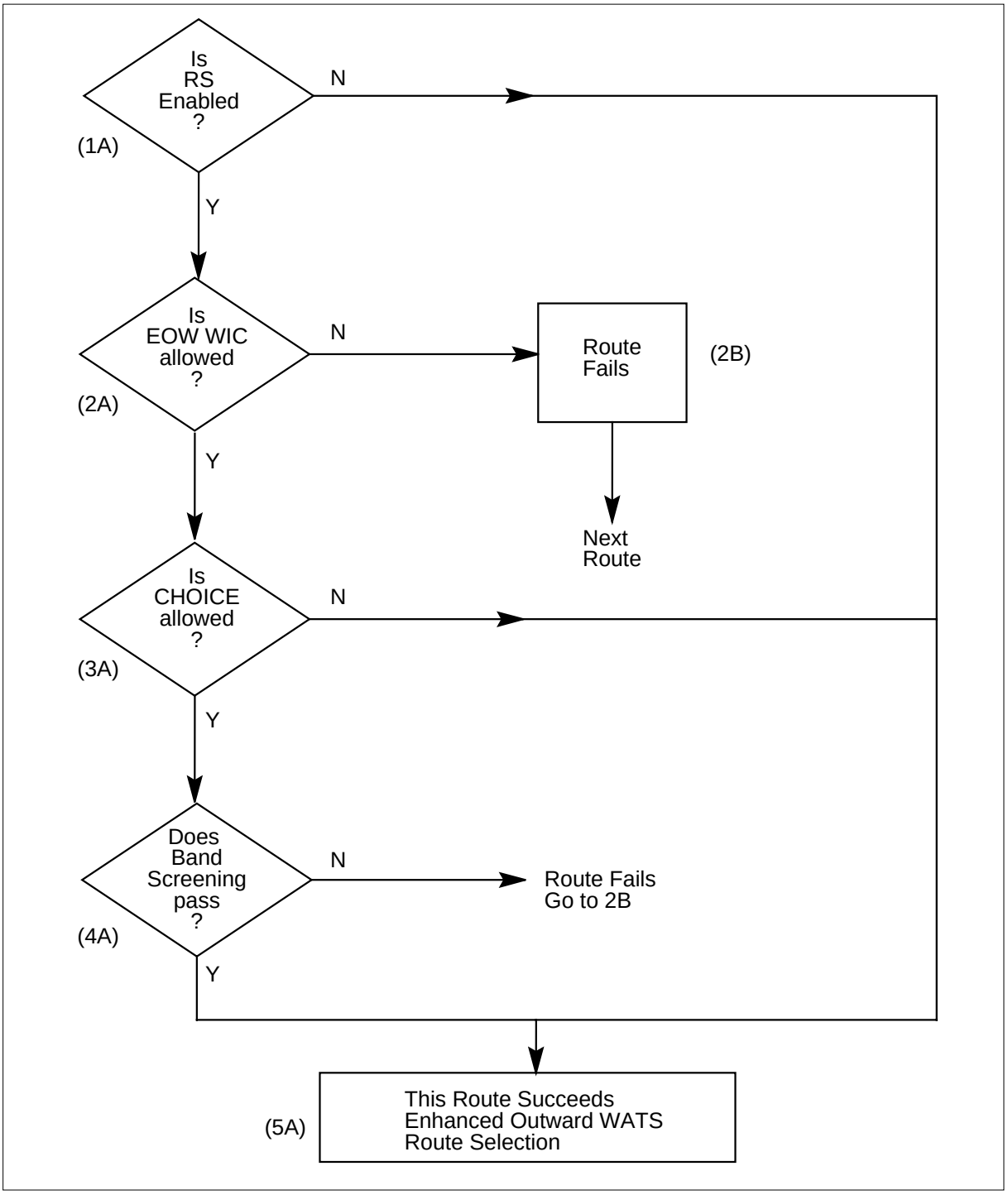
- Retranslation through a VFG is a requirement for MDC Enhanced WATS traffic.
- Any VFG which is designated to carry Enhanced WATS traffic will be required to use a line attribute which specifies an LCC of EOW or ETW Once this requirement is satisfied, all call traffic through this VFG will be considered Enhanced WATS traffic.

Translations table flow

The MDC Enhanced WATS translation process is shown in the flowchart that follows.

MDC Enhanced WATS (continued)

Table flow for MDC Enhanced WATS



MDC Enhanced WATS (continued)

As shown in the above figure, there are a number of decision control blocks that jointly determine whether or not a route will be selected.

The following description explains the events that take place within each decision block.

1A: Is RS enabled?

Field RSENABLED in the EOW selector is checked to see if automatic route selection is enabled. If route selection is enabled for this route, this route continues with the route selection procedure. If route selection is not enabled, this route is selected no matter what.

2A: Is the EOW WIC allowed?

In all cases where route selection is enabled, WIC screening is performed. A check is made to verify that the WIC given in the current EOW route, is also contained in the WIC list in table WATSAUTH. (The key into table WATSAUTH is provided by option EWAUTH in the NET/ GEN selector of table IBNXLA.) If the WIC is found in table WATSAUTH, this route can continue with the procedure. If table WATSAUTH has a WIC list datafilled, but the WIC is not found, the route fails.

If no WIC list is found in table WATSAUTH, the WIC in the EOW route is assumed to be allowed. This would occur if option EWAUTH was not used in table IBNXLA, or if no WIC list was specified for a WATSAUTH entry which had choice set to N).

Notice that this check is done regardless of whether or not CHOICE is allowed.

2B: Route fails

When a route fails, an attempt is made to continue to the next route element in the route list, if one is available.

3A: CHOICE allowed

Since it does not make sense to do route selection prior to routing to a facility which permits 10XXX dialing, this route succeeds if the field CHOICE in table WATSAUTH is equal to Y. If CHOICE equals N, the selection procedure continues to try and verify the called band.

4A: Band screening passes

At this point, the called band needs to be verified against the BANDSET listed in the route element. The STS in the line attributes of the listed VFG is used in looking up the called band in table WATSBAND. Then, table BANDSETS determines if the called band is allowed for the bandset listed in the EOW route.

In addition, if there is an entry in table WATSAUTH associated with the call, the bandset referenced there is also used to check the validity of the route. This means that both the BANDSET listed in the EOW route itself as well as the one that might be listed in table WATSAUTH can be used to influence the route taken. If either check fails, the route fails.

5A: This route succeeds enhanced outward WATS route screening.

If this route does not fail for any other reason (such as all the VFG resources are busy), the call continues into the retranslation procedure out of the VFG.

Limitations and restrictions

The following limitations and restrictions apply to MDC Enhanced WATS:

- Translation schemes which mark a call as EA out of table STDPRTCT on the second leg of the call must be careful since this will be interpreted as CHOICE-of-carrier dialing by the MDC Enhanced WATS screening mechanism.
- If 950 translations are set up which mark a call as Equal Access in Subtable STDPRT, then the WATS screening procedure will send the call to carrier access code error (CACE) treatment if either of the following conditions are met:
  - There is no WATSAUTH entry specified on the first leg of translations.
  - WATSAUTH entry designates CHOICE as N (No).
- Please note, that if CHOICE is Y (Yes), the carrier that is being accessed through 950 translations, will be checked against the WATSAUTH tuple to ascertain that it is a valid carrier for the call. It is recommended that this kind of traffic (specifically 950 calls) be routed out of first leg translations or sent to a non_WATS VFG.

Interactions

The following paragraphs describe the interactions between MDC Enhanced WATS and other functionalities.

The line and group PIC will not have any impact on the choice of a WATS Interexchange Carrier. The two mechanisms are distinct and separate.

Activation/deactivation by the end user

MDC Enhanced WATS requires no activation or deactivation by the end user.

Billing

MDC Enhanced WATS does not affect billing.

MDC Enhanced WATS (continued)

Station Message Detail Recording

MDC Enhanced WATS does not affect Station Message Detail Recording.

Datafilling office parameters

MDC Enhanced WATS does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement MDC Enhanced WATS. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for MDC Enhanced WATS

Table	Purpose of table
OCCNAME	Equal Access List of Other Common Carrier Names. This table lists connected carriers and establishes the spelling standard for other tables requiring the carrier name, that is, OCCINFO, TRKGRP, and STDPRT.
VIRTGRPS	Virtual Facility Groups. This table contains a mechanism to eliminate loop-around trunks. Loop-around trunks are used to implement IBN inward wide area telephone service (INWATS), and OUTWATS and to provide equal access capabilities.
WATSBAND	WATS Band. This table contains groups of certain patterns of digits called bands. These bands define geographical areas which generally form concentric circles around the local area.
BANDSETS	Band Sets. This table contains bands that can be grouped together to form allowable calling areas.
IBNRTE	IBN Route. This table contains route lists identified by a route reference index number.
LINEATTR	Line Attribute. This table contains the new LCCs required by MDC Enhanced WATS. New LCCs are EOW and ETW.
WATSAUTH	MDC Enhanced WATS Authorization. This table contains the carriers an operating company uses to carry its OUTWATS traffic.
IBNXLA	IBN Translation. This table contains the data for the digit translation of calls from an IBN station, an attendant console (AC), or an incoming or an incoming side of a two-way IBN trunk group.

This feature changes tables IBNXLA and IBNRTE and creates table WATSAUTH.

Datafilling table OCCNAME

Table OCCNAME (Equal Access List of Other Common Carrier Names) contains one field (OCCNAME) and serves the following two functions for translations:

- Lists connected carriers. There are 999 tuples to accommodate 999 carriers and one null carrier (NILC). The office default carrier is considered the same as any other inter-LATA carrier (IC)/international carrier (INC). NILC is added internally as the last carrier of the list.
- Establishes the spelling standard for other tables requiring the carrier name, that is, OCCINFO, TRKGRP, and STDPRT.

MDC Enhanced WATS requires a special carrier name to be established. This carrier will be a pseudo-carrier to handle special EWATS called numbers, such as SACs and intra-LATA. The carrier will only be used as a mechanism to perform route selection on special call scenarios which would not really require a carrier in retranslations. This carrier will not be datafilled in table OCCINFO, since it is only used in the IBNRTE EOW route elements.

The following table shows the datafill specific to MDC Enhanced WATS for table OCCNAME. Only those fields that apply directly to MDC Enhanced WATS are shown. For a description of the other fields, refer to the data schema section of this document

Datafilling table OCCNAME

Field	Subfield or refinement	Entry	Explanation and action
OCCNAME		Carrier name	Other Common Carrier Name. This field specifies the carrier name or a 1- to 16-character alphanumeric abbreviation of the carrier name. Enter the carrier name or enter the reserved carrier name USE_PREVIOUS if the generic recursive pretranslator is to be used.

Datafill example for table OCCNAME

The following example shows sample datafill for table OCCNAME.

MDC Enhanced WATS (continued)

MAP display example for table OCCNAME

```
OCCNAME
_____________________________________________________________
MCI
GTE
SPCLEWATS
ATT
ITT
```

Datafilling table VIRTGRPS

Table VIRTGRPS (Virtual Facility Groups) contains a mechanism to eliminate loop-around trunks. Loop-around trunks are used to implement IBN inward wide area telephone service (INWATS), and OUTWATS and to provide equal access capabilities.

This is where a VFG is created and its properties defined. This feature does not change table VIRTGRPS. MDC Enhanced WATS requires that EOW calls be routed through a VFG.

The following table shows the datafill specific to MDC Enhanced WATS for table VIRTGRPS. Only those fields that apply directly to MDC Enhanced WATS are shown. For a description of the other fields, refer to the data schema section of this document

Datafilling table VIRTGRPS (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
KEY		user-defined name or leave blank	Virtual Facility Group Key. This field specifies the 1- to 6-character alphanumeric user-defined name. Enter a user-defined name if the entry is the first for the virtual facility group (VFG). Leave blank if this entry is not the first entry for the VFG.
DATA		see subfields	Virtual Facility Group Data. This field contains subfields VFGTYPE and INCTYPE.
	VFGTYPE	SIZE or USES	Virtual Facility Group Type. This subfield specifies the VFG type. Enter SIZE if this is the first entry. Enter USES if this is not the first entry. ***Note:*** If VFGTYPE is set to SIZE, subfield SIZE requires datafill.

Datafilling table VIRTGRPS (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	SIZE	0 to 2048	Size. This subfield specifies the number of simultaneous accesses allowed for this VFG. Enter a value from 0 to 2048. ***Note:*** If VFGTYPE is set to USES, subfield USESGRP requires datafill.
	USESGRP	VFG name or leave blank	Virtual Facility Group Name. This subfield specifies the VFG name is the name of another VFG that contains the previously allocated virtual facilities. This entry provides the means to have virtual two-way trunks and/or to associate more than one set of screening data with the same set of virtual circuits. Enter the VFG name if the entry is the first for the VFG. Leave blank if this entry is not the first entry for the VFG.
INCTYPE		NIL, POTS, or IBN	Incoming Type. This field specifies the incoming VFG type. If this is the first entry for the VFG, do one of the following: (1) enter NIL when the VFG has no screening information, (2) enter POTS when the call is entering the plain old telephone services (POTS) translation environment, or (3) enter IBN when the call is entering the IBN translation environment.

Datafill example for table VIRTGRPS

The following example shows sample datafill for table VIRTGRPS.

MDC Enhanced WATS (continued)

MAP display example for table VIRTGRPS

```
KEY         DATA          OPTIONS
_____________________________________________________________
EWTV1  SIZE 1   POTS N 191 Y    IBNPIC
EWTV2  SIZE 1   POTS 0022222222 191 Y
EWTV3  SIZE 1   POTS 0023333333 192 Y
EWTV4  SIZE 1   POTS 0024444444 191 Y
EWTV5  SIZE 1   POTS 0025555555 191 Y
EWTV6  SIZE 1   POTS 0026666666 192 Y
EWTV7  SIZE 1   POTS 0027777777 191 Y
EWTV8  SIZE 1   POTS 0028888888 191 Y
EWTV9  SIZE 1   POTS 0029999999 192 Y
SACVG  SIZE 1   POTS N          191 Y
INTRA  SIZE 1   POTS N          191 Y
DA411  SIZE 1   POTS N          191 Y
FGBV   SIZE 1   POTS N          191 Y
SPCL1  SIZE 1   POTS 0031111111 191 Y
SPCL2  SIZE 1   POTS 0032222222 191 Y
ALLSP  SIZE 1   POTS 9999999999 191 Y
TOLLV  SIZE 1   POTS N 0  Y  EA   MCI Y
```

Datafilling table WATSBAND

Table WATSBAND (WATS Band) contains groups of certain patterns of digits called bands. These bands define geographical areas which generally form concentric circles around the local area. Table WATSBAND also enables carriers to define their own unique bands. Each different band can be assigned to a different carrier. All carriers which assign the same band to a digit pattern can be lumped together into a default group. This reduces the amount of datafill required for the table.

The called band for national calls is found in this table. It is based on the SNPA, the called digits, and the carrier of the call. Table WATSBAND allows the definition of calling bands as they pertain to numbering plan area (NPA) codes within certain geographical areas.

The following table shows the datafill specific to MDC Enhanced WATS for table WATSBAND. Only those fields that apply directly to MDC Enhanced

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

Datafilling table WATSBAND

Field	Subfield or refinement	Entry	Explanation and action
WATSCODE		see subfields	WATSBAND Key. This field consists of subfields SVGNPA, WIC, and DIGITS.
BAND		0 to 126 or NIL	Band. This field specifies the band number assigned to the digits. Enter a value from 0 to 126 or NIL if a band number is not assigned.

Datafill example for table WATSBAND

The following example shows sample datafill for table WATSBAND.

MAP display example for table WATSBAND

```
                                          WATSCODE  BANDS
_____________________________________________________________
613         SPCLEWATS    5551212            103
819         SPCLEWATS    5551212            103
613         SPCLEWATS    800                100
819         SPCLEWATS    800                100
613         SPCLEWATS    621                101
613         SPCLEWATS    622                101
819         SPCLEWATS    622                101
613         SPCLEWATS    411                102
819         SPCLEWATS    411                102
613         SPCLEWATS    950                104
819         SPCLEWATS    950                104
613         DEFAULT      312                  0
613         DEFAULT      313                  1
613         DEFAULT      314                  2
613         DEFAULT      315                  3
613         DEFAULT      316                  4
613         DEFAULT      317                  5
613         DEFAULT      318                  6
613         DEFAULT      319                  7
613         DEFAULT      613888               8
613         DEFAULT      518                  9
```

MDC Enhanced WATS (continued)

MAP display example for table WATSBAND (continued)

```
613         MCI         312             10
613         MCI         313             11
613         MCI         314             12
613         MCI         315             13
613         MCI         316             14
613         MCI         317             15
613         MCI         318             16
613         MCI         319             17
613         MCI         613888          18
613         MCI         518             19
613         ATT         312             20
613         ATT         313             21
613         ATT         314             22
613         ATT         315             23
613         ATT         316             24
613         ATT         317             25
613         ATT         318             26
613         ATT         319             27
613         ATT         613888          28
613         ATT         518             29
613         ITT         312             30
613         ITT         314             31
613         ITT         313             32
```

Datafilling table BANDSETS

Table BANDSETS (Band Sets) contains bands that can be grouped together to form allowable calling areas. The tuples in this table are assigned to a symbolic key rather than SNPA codes. A bandset can then be assigned to an Enhanced WATS line to define its allowable calling area using a particular carrier. Band set arrangements are established and associated with a user defined key.

The following table shows the datafill specific to MDC Enhanced WATS for table BANDSETS. Only those fields that apply directly to MDC Enhanced

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

Datafilling table BANDSETS

Field	Subfield or refinement	Entry	Explanation and action
BANDSET		unique key	Bandset. This field specifies the 1- to 8-character unique key which defines the allowable calling area. Enter the unique key.
BANDS		numeric (0 to 126)	Bands. This field specifies the set of bands that are grouped together as a vector. This vector determines the wide area telephone service (WATS) calling area assigned to the key. Enter the set of bands that are grouped together as a vector. The vector range is from 0 to126.

Datafill example for table BANDSETS

The following example shows sample datafill for table BANDSETS.

MAP display example for table BANDSETS

```
BANDSET        BANDS
_____________________________________________________________
SAC              (100) $
INTRALAT         (101) $
DA411            (102) $
DA555            (103) $
FGB              (104) $
ALLDA            (102) (103) $
SPCL1            (100) (101) $
SPCL2            (102) (103) (104) $
ALLSPCL          (100) (101) (102) (103) (104) $
0THRU0            (0) $
0THRU9           (0) (1) (2) (3) (4) (5) (6) (7) (8) (9) $
10THRU10         (10) $
10THRU12         (10) (11) (12) $
10THRU13         (10) (11) (12) (13) $
10THRU15         (10) (11) (12) (13) (14) (15) $
10THRU17         (10) (11) (12) (13) (14) (15) (16) (17) $
20THRU24         (20) (21) (22) (23) (24) $
20THRU27         (20) (21) (22) (23) (24) (25) (26) (27) $
```

MDC Enhanced WATS (continued)

Datafilling table IBNRTE

Table IBNRTE (IBN Route) contains route lists identified by a route reference index number.

This is the MDC Routing table. A new route selector, EOW is introduced by this feature. The EOW route selector routes calls to a VFG for retranslation, and provides a mechanism for carrier and band screening.

The following table shows the datafill specific to MDC Enhanced WATS for table IBNRTE. Only those fields that apply directly to MDC Enhanced WATS 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 subfields	Route List. This field consists of subfields IBNRTSEL, OHQ, CBQ, EXP, WIC, BANDSET, RSENABLE, BAND, VFG, and DMI.
	IBNRTSEL	EOW	IBN Route Selector. This subfield specifies the IBN route selector. Enter EOW.
	OHQ	Y or N	Off-Hook Queueing. This subfield specifies whether off-hook queuing is allowed on this route. Enter Y or N.
	CBQ	Y or N	Call Back Queueing. This subfield specifies whether call back queuing is allowed on this route. Enter Y or N.
	EXP	Y or N	Expensive. This subfield specifies whether this route is considered an expensive route. Enter Y or N.
	WIC	interexchang e carrier from table OCCINFO	Enhanced WATS Interexchange Carrier. This subfield specifies the 1 to 16-character alphanumeric interexchange carrier that is allowed for this route. Enter the interexchange carrier from table OCCINFO.
	BANDSET	alpha -numeric (8 characters maximum)	Band Set. This subfield specifies the key into table BANDSETS that is used in conjunction with the WATS interexchange carrier (WIC) and the called digits to determine if this route is allowed. Enter a 1- to 8-character alphanumeric name of a band set from table BANDSETS.

Datafilling table IBNRTE (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	RSENABLE	Y or N	Route Selection Enable. This subfield specifies whether route selection screening should be performed for this route. Enter Y or N.
	BAND	0 to 126	Band. This subfield specifies the band number that appears in the billing record generated for the call as it routes out of the virtual facility group (VFG). This band is not used in any way for band screening. Enter a value from 0 to 126.
	VFG	VFG name	Virtual Facility Group. This subfield specifies the 1- to 6-character alphanumeric name of an VFG from table VIRTGRPS. This is the VFG that is used for retranslation. Enter the VFG name.
	DMI	0 to 32 767	Digit Manipulation Index. This subfield specifies a digit manipulation index for the route. This is used as a key into table DIGMAN and allows the called number digits to be modified. Note that band screening is performed prior to using the DMI. Enter a value from 0 to 32 767. Enter 0 if no digit manipulation is required.

Datafill example for table IBNRTE

The following example shows sample datafill for table IBNRTE.

MAP display example for table IBNRTE

```
RTE                                                RTELIST
_____________________________________________________________
101 (EOW N N N SPCLEWATS INTRALAT Y 101 INTRA 0) $
    (EOW N N N SPCLEWATS SAC Y 100 SACVG 0) $
    (EOW N N N SPCLEWATS DA411 Y 102 DA411 0) $
    (EOW N N N SPCLEWATS DA555 Y 103 DA411 0) $
    (EOW N N N SPCLEWATS FGB Y 104 FGBVG 0) $
    (EOW N N N SPCLEWATS SPCL1 Y 105 SPCL1 0) $
    (EOW N N N SPCLEWATS SPCL2 Y 106 SPCL2 0) $
    (EOW N N N SPCLEWATS ALLSPCL Y 107 ALLSP 0) $
102 (EOW N N N MCI 10THRU12 Y 12 EWTV1 0) $
    (EOW N N N ATT 20THRU24 Y 24 EWTV2 0) $
    (EOW N N N MCI 10THRU19 Y 16 EWTV3 0) $
    (EOW N N N GTE 0THRU9 Y 9 EWTV4 0) $
    (VFG N N Y TOLLV 0) $
103 (EOW N N N MCI 10THRU19 N 39 EWTV5 0) $
```

MDC Enhanced WATS (continued)

Datafilling table LINEATTR

Table LINEATTR (Line Attribute) contains the new LCCs required by MDC Enhanced WATS. New LCCs are EOW and ETW.

The following is a synopsis of LCCs EOW and ETW:

- EOW. Enhanced Outward WATS.

  Assign to lines with Enhanced OUTWATS service in offices with the Equal Access End Office software package and the Enhanced WATS software package

  EOW is similar to LCC OWT, but may be used with or without a hunt group, and is used in conjunction with the Enhanced WATS Access Line (EWAL).

- ETW. Enhanced Two-Way WATS.

  Assign to lines with Enhanced OUTWATS service in offices with the Equal Access End Office software package and the Enhanced WATS software package.

  ETW is similar to LCC 2WW, but may be used with or without a hunt group and is used in conjunction with option EWAL. ETW is a combination of capabilities of Inward WATS (INW) and EOW.

The following table shows the datafill specific to MDC Enhanced WATS for table LINEATTR. Only those fields that apply directly to MDC Enhanced WATS are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table LINEATTR

Field	Subfield or refinement	Entry	Explanation and action
LCC		EOW or EWT	Line Class Code. This field specifies the LCC assigned to the line attribute index. The LCC of an existing tuple cannot be changed. Enter EOW or EWT.

Datafill example for table LINEATTR

The following example shows sample datafill for table LINEATTR.

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
_____________________________________________________
   1006    EOW   NONE    NT  OWTS   1  919 OWT1     TEST
NONE        0     NIL   NILSFC   NILLATA   0       NIL
NIL        12 Y     POTSDATA 0  0            $
```

Datafilling table WATSAUTH

Table WATSAUTH (MDC Enhanced WATS Authorization) contains the carriers an operating company uses to carry its OUTWATS traffic. These carriers are WATS WICs. Each WIC has an associated band set that details the bands to which the customer has access to through the carrier. Up to five carriers and associated band sets can be specified.

This table is used to configure Enhanced WATS calling capabilities. Pre-subscribed WATS carriers and carrier bandset service restrictions are applied by using keys into this table.

The following table shows the datafill specific to MDC Enhanced WATS for table WATSAUTH. Only those fields that apply directly to MDC Enhanced WATS are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table WATSAUTH (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
AUTHKEY		vector up to 8 characters	Authorization Key. This field specifies the name defined by the operating company. Enter a vector up to 8 characters.
INTRALAT		Y or N	intra-LATA. This field specifies whether intra-LATA calls are allowed from an MDC Enhanced WATS virtual facility group (VFG). This screening is enforced on the VFG retranslation leg of an MDC Enhanced WATS call. Enter Y or N.
SAC		Y or N	Service Access Code. This field specifies whether SAC calling is permitted from the Enhanced WATS VFG. A. SAC is a code that takes the place of a numbering plan area (NPA), such as an 800 or a 900 number. Enter Y or N.

MDC Enhanced WATS (continued)

Datafilling table WATSAUTH (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
CHOICE		Y or N	Choice. This field specifies whether the caller is allowed to dial 10XXX to access one of the carriers in field WICINFO. Field CHOICE impacts how route selection is performed in table IBNRTE with the Enhanced OUTWATS (EOW) route selector. Enter Y or N. ***Note:*** If CHOICE is set to Y, field WICINFO requires datafill.
WICINFO		vector of up to 5 entries	WATS Interexchange Carrier Information. This field consists of subfields WIC and BANDSET. ***Note:*** This field is used to designate which carriers and associated band sets are permitted for the caller. If this field contains any WIC, these WICs are the only WICs allowed from retranslations out of the VFG. Enter a vector of up to 5 entries.
	WIC	name of a carrier	WATS Interexchange Carrier. This subfield specifies the 1- to 16-character alphanumeric name of a carrier from table OCCNAME. Enter the name of a carrier.
	BANDSET	1-to 8-character alphanumeric name of a band set	Band Set. This subfield specifies the name of a band set from table BANDSETS. This field indicates the band set that is allowed for the carrier in field WIC. Enter the 1- to 8-character alphanumeric name of a band set.

Datafill example for table WATSAUTH

The following example shows sample datafill for table WATSAUTH.

MAP display example for table WATSAUTH

```
AUTHKEY INTRALAT SAC CHOICE WICINFO
_____________________________________________________________
IBNTST1 N N N $
IBNTST2 N Y N $
IBNTST3 Y N N $
IBNTST4 Y Y N (MCI 10THRU15 ATT 20THRU29
ITT GLOBAL SPCLEWATS ALLSPCL) $
IBNTST5 Y Y Y (MCI 10THRU15 ATT 20THRU29
ITT GLOBAL SPCLEWATS ALLSPCL) $
IBNTST6 Y Y N (MCI 10THRU19) $
IBNTST7 Y Y Y (MCI 10THRU12) $
IBNTST8 Y Y N (MCI 10THRU13) $
```

Datafilling table IBNXLA

Table IBNXLA (IBN Translation) contains the data for the digit translation of calls from an IBN station, an attendant console (AC), or an incoming or an incoming side of a two-way IBN trunk group.

A new option, EWAUTH, is added for tuples that use a GEN NET selector. This option is used to define the WATS characteristics of a call on a translator basis.

The following table shows the datafill specific to MDC Enhanced WATS for table IBNXLA. Only those fields that apply directly to MDC Enhanced WATS 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
OPTION		EWAUTH	Option. This field specifies the MDC Enhanced WATS calls option. Enter EWAUTH.

Datafill example for table IBNXLA

The following example shows sample datafill for table IBNXLA.

MDC Enhanced WATS (continued)

MAP display example for table IBNXLA/XLANAME

```
KEY              RESULT
_____________________________________________________________
CXDEMO 9 NET N Y N 1 N POTS N N GEN (LATTR 1006)
                                          (EWAUTH IGNTST1)
```

Translation verification tools

This TRAVER example demonstrates an approach to routing 00 minus calls through an Enhanced WATS facility. Since 00 digits are not datafilled in table WATSBAND, this call is routed to IBNRTE 103 (which has route selection disabled, RSENABLE=N).

MDC Enhanced WATS (continued)

00 minus TRAVER output example for MDC Enhanced WATS

```
TRAVER L 6215000 '14100' B RTEVFG ALL
TABLE IBNLINES
HOST 00 0 01 16 DT STN IBN 6215000 IBNTST 0 0 613 $
TABLE DNATTRS
613 621 5000
    (PUBLIC ( NAME SAM_SNEAD) $)$
TABLE DNGRPS
TUPLE NOT FOUND
TABLE NCOS
IBNTST 0 TST10 0 0 ( XLAS CXT1 NXLA NDGT) ( OHQ 0 TONE_OHQ)
(CBQ 0 1 Y 2) (ERWT)$
TABLE CUSTHEAD:CUSTGRP,PRELIMXLA,CUSTXLA,FEATXLA,VACTRMT,
AND DIGCOL
IBNTST NXLA CXT3 NXLA 0 TST1
TABLE DIGCOL
TST1 1 COL S 2
TABLE IBNXLA: XLANAME CXT1
CXT1 141 NET N Y N 3 Y POTS N N GEN(LATTR 190)(EWAUTH IBNTST1) $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
190 1FR NONE NT NSCR 0 002 LEG1 NLCA TOPS 10 NIL NILSFC
 NILLATA 0 NIL NIL 00 N $
TABLE WATSAUTH
IBNTST1 N N N $
TABLE STDPRTCT
LEG1 ( 1) ( 0)
 . SUBTABLE STDPRT
 . 00 00 T NP 0 IBNRTE 103 2 2 NONE
 .  . TABLE IBNRTE
 .  .  103 (EOW N N N MCI GLOBAL N 110 EWTV5 0) $
 .  . EXIT TABLE IBNRTE
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE   N
LATA IS NIL, THEREFORE NOT AN EQUAL ACCESS CALL
+++ TRAVER: SUCCESSFUL CALL TRACE +++
DIGIT TRANSLATION ROUTES
1 VFG: EWTV5            00

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 T120

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

MDC Enhanced WATS (continued)

00 minus TRAVER output example for MDC Enhanced WATS (continued)

```
    Resolving VFG: EWTV5 Route with calling digits 00
TABLE VIRTGRPS
EWTV5 SIZE 1 POTS 0025555555 191 Y ( EA MCI Y)$
IBNRTE EOW Route WIC will be used
191 EOW NONE NT NSCR 0 613 EWAT NLCA TOPS   10
NIL NILSFC LATA1 0  NIL NIL 00 N $
TABLE STDPRTCT
EWAT ( 1) ( 1)
 . SUBTABLE STDPRT
 . 00 00 T OA 1 OFRT 888 2 2 NONE
 .  . TABLE OFRT
 .  .  888 (CND EA INTNL SK 2)
 .  .      (S D OGEAATT)
 .  .      (CND ALWAYS SK 1)
 .  .      (TS D OGEAATT 0 1 N 6 N) $
 .  . EXIT TABLE OFRT
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE   N
OVERLAP CARRIER SELECTION (OCS) APPLIES
TABLE OCCINFO
MCI 0222 TRANS Y Y Y Y N N Y Y Y Y N LONG 0 FGRPD N N N N N
 Y N N N N N N
TABLE EASAC
NOT ENOUGH DIGITS FOR SAC CALL
TABLE STDPRTCT
EWAT ( 1) ( 1)
 . SUBTABLE STDPRT
 . 10222 10222 EA DD 5 P MCI1 MCI Y OFRT 889 6 20 Y
 .  . TABLE OFRT
 .  .  889 (CND EA INTNL SK 3)
 .  .      (S D OGEAMCI)
 .  .      (S D ISUP2WMCI)
 .  .      (CND ALWAYS SK 2)
 .  .      (N D OGEAMCI 15 D121 N)
 .  .      (N D ISUP2WMCI 0 D121 N) $
 .  . EXIT TABLE OFRT
 . TABLE STDPRTCT0
 . MCI1 ( 1) ( 0)
      SUBTABLE STDPRT
 .  . 00 00 EA OA 1 T NO MCI Y OFRT 889 2 2 N
```

00 minus TRAVER output example for MDC Enhanced WATS (continued)

```
.  .  . TABLE OFRT
 .  .  .  889 (CND EA INTNL SK 3)
 .  .  .      (S D OGEAMCI)
 .  .  .      (S D ISUP2WMCI)
 .  .  .      (CND ALWAYS SK 2)
 .  .  .      (N D OGEAMCI 15 D121 N)
 .  .  .      (N D ISUP2WMCI 0 D121 N) $
 .  .  . EXIT TABLE OFRT
Using Equal Access (EA) route OFRT  889 from Pretranslation
TABLE OFRT
 889 (CND EA INTNL SK 3)
     (S D OGEAMCI)
     (S D ISUP2WMCI)
     (CND ALWAYS SK 2)
     (N D OGEAMCI 15 D121 N)
     (N D ISUP2WMCI 0 D121 N) $
EXIT TABLE OFRT
+++ TRAVER: SUCCESSFUL CALL TRACE +++

DIGIT TRANSLATION ROUTES
1 OGEAMCI               0                  ST
2 ISUP2WMCI             0                  ST
TREATMENT ROUTES.  TREATMENT IS: GNCT
1 T120
```

TRAVER with route selection (CHOICE=N)

The following TRAVER shows first leg translations of a call which uses the route selection criteria to select an appropriate IBNRTE route element. The primary WIC for the call is dependent on which route elements succeed the route selection process. The primary route element for the digits dialed references the carrier MCI. This will be the primary carrier for the call. If all of the EWTV3 members are busy then the call would overflow into the EWTV4 VFG which would cause the carrier GTE to be used in the second leg translations.

MDC Enhanced WATS (continued)

TRAVER with route selection (CHOICE=N) output example for MDC Enhanced WATS

```
TRAVER L 6215000 1413192557777 B
TABLE IBNLINES
HOST 00 0 01 16 0 DT STN IBN 6215000 IBNTST 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE NCOS
IBNTST 0 TST10 0 0 ( XLAS CXT1 NXLA NDGT) ( OHQ 0 TONE_OHQ)
(CBQ 0 1 Y 2) ( ERWT )$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA,
VACTRMT,
AND DIGCOL
IBNTST NXLA CXT3 NXLA 0 TST1
TABLE DIGCOLTST1 1 COL S 2
TABLE IBNXLA: XLANAME CXT1
CXT1 141 NET N Y N 3 Y POTS N N GEN (LATTR 190) (EWAUTH
IBNTST1) $
TABLE NCOS
IBNTST 0 TST10 0 0 ( XLAS CXT1 NXLA NDGT) ( OHQ 0 TONE_OHQ)
(CBQ 0 1 Y 2) ( ERWT )$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA,
VACTRMT,
AND DIGCOL
IBNTST NXLA CXT3 NXLA 0 TST1
TABLE DIGCOL
TST1 1 COL S 2
TABLE IBNXLA: XLANAME CXT1
CXT1 141 NET N Y N 3 Y POTS N N GEN ( LATTR 190) (EWAUTH
IBNTST1)
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
190 1FR NONE NT NSCR 0 002 LEG1 NLCA TOPS 10 NIL NILSFC
NILLATA 0 NIL NIL 00 N $
TABLE WATSAUTH
IBNTST1 N N N $
TABLE STDPRTCT
```

TRAVER with route selection (CHOICE=N) output example for MDC Enhanced WATS

```
LEG1 ( 1) ( 0)
 . SUBTABLE STDPRT
 . 3 510 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE   N
TABLE HNPACONT
002 60 1 ( 3) ( 1) ( 0)
 . SUBTABLE HNPACODE
 . 3 410 FRTE 2
 . SUBTABLE RTEREF
 .    2 T IBNRTE 102
 .  . TABLE IBNRTE
 .  .  102 (EOW N N N MCI 10THRU12 Y 12 EWTV1 0)
 .  .      (EOW N N N ATT 20THRU24 Y 24 EWTV2 0)
 .  .      (EOW N N N MCI 10THRU19 Y 16 EWTV3 0)
 .  .      (EOW N N N GTE 0THRU9 Y 9 EWTV4 0)
 .  .      (VFG N N Y TOLLV 0) $
 .  . EXIT TABLE IBNRTE
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LATA IS NIL, THEREFORE NOT AN EQUAL ACCESS CALL
+++ TRAVER: SUCCESSFUL CALL TRACE +++
DIGIT TRANSLATION ROUTES
1 VFG: EWTV3            3192557777
2 VFG: EWTV4            3192557777
3 VFG: TOLLV            3192557777

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 T120
+++ TRAVER: SUCCESSFUL CALL TRACE +++
```

TRAVER — route selection (CHOICE=N, IBNTST4 WATSAUTH entry used)

The following TRAVER demonstrates the use of a WIC list in the WATSAUTH entry to restrict the WATS Carriers and called band range during route selection. The following decisions are made during the route selection process for this call (broken down by route element as labelled in the TRAVER):

- RE 1. This is the first route encountered in the route list. The called band for this call (as derived from table WATSBAND) is 17 (613 MCI 319 17).

MDC Enhanced WATS (continued)

Since this route element specifies a bandset which contains bands 10 through 12, this route element failed and is skipped.

- RE 2. The called band for this call is 27, table WATSBAND (613 ATT 319 27). The bandset for this route does not include band 27, (ATT20 thru 24). Therefore the route fails, and the call proceeds to the next route.
- RE 3. Per tables WATSBAND (613 MCI 319 17) and BANDSET (10 through 19) this route looks valid. Table WATSAUTH cause the route to fail, (MCI 10 thru 15). Whenever there is an entry in table WATSAUTH associated with the call, the bandset referenced there is also checked to ensure the validity of the route.
- RE 4. This route fails since the WIC listed GTE (0 thru 9), is not a valid bandset per table WATSAUTH. In all cases where route selection is enabled, WIC screening is performed. A check is made to verify that the WIC given in the current EOW route and is also contained in the WIC listed in table WATSAUTH.
- RE 5. This is the only route which is taken. Since this uses a VFG selector, this is not a WATS call and no route selection is performed on the element.

MDC Enhanced WATS (continued)

TRAVER - route selection (CHOICE=N, IBNTST4 WATSAUTH entry used) output example for MDC Enhanced WATS

```
TRAVER L 6215000 1443192557777 B
TABLE IBNLINES
HOST 00 0 01 16 0 DT STN IBN 6215000 IBNTST 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE NCOSIBNTST 0 TST10 0 0 ( XLAS CXT1 NXLA NDGT) ( OHQ 0 TONE_OHQ)
( CBQ 0 1 Y 2) ( ERWT )$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA,
VACTRMT,
AND DIGCOL
IBNTST NXLA CXT3 NXLA 0 TST1
TABLE DIGCOL
TST1 1 COL S 2
TABLE IBNXLA: XLANAME CXT1
CXT1 144 NET N Y N 3 Y POTS N N GEN ( LATTR 190) (EWAUTH
IBNTST4)$
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
190 1FR NONE NT NSCR 0 002 LEG1 NLCA TOPS 10 NIL NILSFC
NILLATA 0 NIL NIL 00 N $
TABLE WATSAUTH
IBNTST4 Y Y N ( MCI 10THRU15) ( ATT 20THRU29) ( ITT GLOBAL)
(SPCL EWATS ALLSPCL)$
TABLE STDPRTCT
LEG1 ( 1) ( 0)
 . SUBTABLE STDPRT
 . 3 510 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE   N
TABLE HNPACONT
002 60 1 ( 3) ( 1) ( 0)
 . SUBTABLE HNPACODE
 . 3 410 FRTE 2
 . SUBTABLE RTEREF
 .    2 T IBNRTE 102
 .  . TABLE IBNRTE
```

MDC Enhanced WATS (continued)

TRAVER - route selection (CHOICE=N, IBNTST4 WATSAUTH entry used) output example for MDC Enhanced WATS

```
 (102 EOW N N N MCI 10THRU12 Y 12 EWTV1 0)
 (EOW N N N ATT 20THRU24 Y 24 EWTV2 0)
 (EOW N N N MCI 10THRU19 Y 16 EWTV3 0)
 (EOW N N N GTE 0THRU9 Y 9 EWTV4 0)
 (VFG N N Y TOLLV 0) $
 .  . EXIT TABLE IBNRTE
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LATA IS NIL, THEREFORE NOT AN EQUAL ACCESS CALL
+++ TRAVER: SUCCESSFUL CALL TRACE +++

DIGIT TRANSLATION ROUTES
1 VFG: TOLLV            3192557777

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 T120
+++ TRAVER: SUCCESSFUL CALL TRACE +++
```

TRAVER route — selection case (CHOICE=N, One WIC in WIC List)

This TRAVER is another example similar to the previous TRAVER, except that it only specifies one carrier in the WIC information portion of the WATSAUTH entry. The digits dialed are also different so that the called band for the carriers falls in more of the route element's bandset ranges.

MDC Enhanced WATS (continued)

TRAVER route - selection case (CHOICE=N, One WIC in WIC List) output example for MDC Enhanced WATS

```
TRAVER L 6215000 1483152557777 b
TABLE IBNLINES
HOST 00 0 01 16 0 DT STN IBN 6215000 IBNTST 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE NCOSIBNTST 0 TST10 0 0 ( XLAS CXT1 NXLA NDGT) ( OHQ 0 TONE_OHQ)
( CBQ 0 1 Y 2) ( ERWT )$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA,
VACTRMT,
AND DIGCOL
IBNTST NXLA CXT3 NXLA 0 TST1
TABLE DIGCOL
TST1 1 COL S 2
TABLE IBNXLA: XLANAME CXT1
CXT1 148 NET N Y N 3 Y POTS N N GEN ( LATTR 190) (EWAUTH
IBNTST8)$
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
190 1FR NONE NT NSCR 0 002 LEG1 NLCA TOPS 10 NIL NILSFC
NILLATA ) 0 NIL NIL 00 N $
TABLE WATSAUTH
IBNTST8 Y Y N ( MCI 10THRU13)$
TABLE STDPRTCT
LEG1 ( 1) ( 0)
 . SUBTABLE STDPRT
 . 3 510 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE   N
```

MDC Enhanced WATS (continued)

TRAVER route - selection case (CHOICE=N, One WIC in WIC List) output example for MDC Enhanced WATS

```
TABLE HNPACONT
002 60 1 ( 3) ( 1) ( 0)
 . SUBTABLE HNPACODE
 . 3 410 FRTE 2
 . SUBTABLE RTEREF
 .    2 T IBNRTE 102
 .  . TABLE IBNRTE
 .  .  102 EOW N N N MCI 10THRU12 Y 12 EWTV1 0
 .  .      EOW N N N ATT 20THRU24 Y 24 EWTV2 0
 .  .      EOW N N N MCI 10THRU19 Y 16 EWTV3 0
 .  .      EOW N N N GTE 0THRU9 Y 9 EWTV4 0
 .  .      VFG N N Y TOLLV 0
 .  . EXIT TABLE IBNRTE
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LATA IS NIL, THEREFORE NOT AN EQUAL ACCESS CALL
+++ TRAVER: SUCCESSFUL CALL TRACE +++

DIGIT TRANSLATION ROUTES
1 VFG: EWTV3            3152557777
2 VFG: TOLLV            3152557777

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 T120
+++ TRAVER: SUCCESSFUL CALL TRACE +++
```

TRAVER, R — CHOICE is Y, one WIC in WIC list

This TRAVER demonstrates the effect that a CHOICE value of Y has on the route selection process. Here is an explanation based on the VFG listed in each route element (each route element references a different VFG):

- EWTV1. If route selection in table IBNRTE is set to Y (yes), all routes in table IBNRTE are checked against the WIC list in table WATSAUTH for validity. Since field CHOICE is set to Y (yes) in table WATSAUTH, no band screening is done. VFG EWTV1 will be terminated on if it has a free member, since carrier MCI is found in table WATSAUTH.
- EWTV2. Carrier ATT is not referenced in table WATSAUTH; therefore this route is skipped.
- EWTV3. This route succeeds and a termination would be attempted if EWTV1VFG has overflowed into this route, since carrier MCI is in table WATSAUTH. Again, field CHOICE is set to Y (yes); therefore no band screening is performed.

MDC Enhanced WATS (continued)

- EWTV4. Carrier GTE is not referenced in table WATSAUTH, so the route is skipped.
- TOLLV. If the route proceeds this far, a termination will always be attempted and should succeed.

TRAVER, R - CHOICE=Y, one WIC in WIC list output example for MDC Enhanced WATS

```
TRAVER L 6215000 1473152557777 b
TABLE IBNLINES
HOST 00 0 01 16 0 DT STN IBN 6215000 IBNTST 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE NCOS
IBNTST 0 TST10 0 0 ( XLAS CXT1 NXLA NDGT) ( OHQ 0 TONE_OHQ)
( CBQ 0 1 Y 2) ( EWRT )$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA,
VACTRMT,
AND DIGCOL
IBNTST NXLA CXT3 NXLA 0 TST1
TABLE DIGCOL
TST1 1 COL S 2
TABLE IBNXLA: XLANAME CXT1
CXT1 147 NET N Y N 3 Y POTS N N GEN ( LATTR 190) (EWAUTH
IBNTST7)$
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
190 1FR NONE NT NSCR 0 002 LEG1 NLCA TOPS 10 NIL NILSFC
NILLATA 0 NIL NIL 00 N $
TABLE WATSAUTH
IBNTST7 Y Y Y ( MCI 10THRU12)$
TABLE STDPRTCT
LEG1 ( 1) ( 0)
 . SUBTABLE STDPRT
 . 3 510 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE   N
```

MDC Enhanced WATS (continued)

TRAVER, R - CHOICE=Y, one WIC in WIC list output example for MDC Enhanced WATS

```
TABLE HNPACONT
002 60 1 ( 3) ( 1) ( 0)
 . SUBTABLE HNPACODE
 . 3 410 FRTE 2
 . SUBTABLE RTEREF
 .    2 T IBNRTE 102
 .  . TABLE IBNRTE
 .  .  102 (EOW N N N MCI 10THRU12 Y 12 EWTV1 0)
 .  .      (EOW N N N ATT 20THRU24 Y 24 EWTV2 0)
 .  .      (EOW N N N MCI 10THRU19 Y 16 EWTV3 0)
 .  .      (EOW N N N GTE 0THRU9 Y 9 EWTV4 0)
 .  .      (VFG N N Y TOLLV 0) $
 .  . EXIT TABLE IBNRTE
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LATA IS NIL, THEREFORE NOT AN EQUAL ACCESS CALL
+++ TRAVER: SUCCESSFUL CALL TRACE +++
 DIGIT TRANSLATION ROUTES
1 VFG: EWTV1            3152557777
2 VFG: EWTV3            3152557777
3 VFG: TOLLV            3152557777
 TREATMENT ROUTES.  TREATMENT IS: GNCT
1 T120
+++ TRAVER: SUCCESSFUL CALL TRACE +++
```

TRAVER — same as previous but CHOICE is N

This TRAVER is used to show how the CHOICE boolean impacts route selection. The preceding TRAVER used CHOICE as yes and both EOW routes that referenced a carrier within the WIC list of the WATSAUTH tuple succeed. When CHOICE is set to N (no), band screening is done. First the called band for table WATSBAND is verified against the Bandset listed in table IBNRTE. Table BANDSETS then determines if the called band is allowed for the bandset listed in the EOW route. EWTV1 would fail since the bandset range for MCI is 10 through 12. EWTV2 would fail because automatic trunk testing (ATT) is not listed in table WATSAUTH. GTE would fail since it is not listed in table WATSAUTH. Therefore, routes taken are EWTV3 and TOLLV.

MDC Enhanced WATS (continued)

TRAVER - same as previous but CHOICE is N output example for MDC Enhanced WATS

```
TRAVER L 6215000 1463162557777 b
TABLE IBNLINES
HOST 00 0 01 16 0 DT STN IBN 6215000 IBNTST 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE NCOS
IBNTST 0 TST10 0 0 ( XLAS CXT1 NXLA NDGT) ( OHQ 0 TONE_OHQ)
( CBQ 0 1 Y 2) ( ERWT )$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA,
VACTRMT,
AND DIGCOL
IBNTST NXLA CXT3 NXLA 0 TST1
TABLE DIGCOL
TST1 1 COL S 2
TABLE IBNXLA: XLANAME CXT1
CXT1 146 NET N Y N 3 Y POTS N N GEN (LATTR 190) (EWAUTH
IBNTST6)$
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
190 1FR NONE NT NSCR 0 002 LEG1 NLCA TOPS 10 NIL NILSFC
NILLATA 0 NIL NIL 00 N $
TABLE WATSAUTH
IBNTST6 Y Y N ( MCI 10 THRU 19)$
TABLE STDPRTCTLEG1 ( 1) ( 0)
 . SUBTABLE STDPRT
 . 3 510 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE   N
TABLE HNPACONT
002 60 1 ( 3) ( 1) ( 0)
 . SUBTABLE HNPACODE
 . 3 410 FRTE 2
 . SUBTABLE RTEREF
 .    2 T IBNRTE 102
 .  . TABLE IBNRTE
 .  .  102 (EOW N N N MCI 10THRU12 Y 12 EWTV1 0)
```

MDC Enhanced WATS (continued)

TRAVER - same as previous but CHOICE is N output example for MDC Enhanced WATS

```
 .  .      (EOW N N N ATT 20THRU24 Y 24 EWTV2 0)
 .  .      (EOW N N N MCI 10THRU19 Y 16 EWTV3 0)
 .  .      (EOW N N N GTE 0THRU9 Y 9 EWTV4 0)
 .  .      (VFG N N Y TOLLV 0) $
 .  . EXIT TABLE IBNRTE
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LATA IS NIL, THEREFORE NOT AN EQUAL ACCESS CALL
+++ TRAVER: SUCCESSFUL CALL TRACE +++
DIGIT TRANSLATION ROUTES
1 VFG: EWTV3            3162557777
2 VFG: TOLLV            3162557777

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 T120+++ TRAVER: SUCCESSFUL CALL TRACE +++
```

TRAVER 10XXX example (CHOICE=Y)

This TRAVER shows a way of setting up EOW translations to provide 10XXX dialing to members of the customer group. Reference the second leg of the TRAVER where band screening is performed. Note that if the carrier which is chosen happens to be the same one as the primary carrier which is listed in the EOW IBNRTE table, then both the BANDSET from the EOW route and the BANDSET from table WATSAUTH are checked.

MDC Enhanced WATS (continued)

TRAVER 10XXX example (CHOICE=Y) output example for MDC Enhanced WATS

```
TRAVER L 6215000 145102223172557777 b rtevfg all
TABLE IBNLINESHOST 00 0 01 16 0 DT STN IBN 6215000 IBNTST 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE NCOS
IBNTST 0 TST10 0 0 ( XLAS CXT1 NXLA NDGT) ( OHQ 0 TONE_OHQ)
(CBQ  0 1 Y 2) ( ERWT )$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA,
VACTRMT,
AND DIGCOL
IBNTST NXLA CXT3 NXLA 0 TST1
TABLE DIGCOL
TST1 1 COL S 2
TABLE IBNXLA: XLANAME CXT1
CXT1 145 NET N Y N 3 Y POTS N N GEN ( LATTR 190) (EWAUTH
IBNTST5)$
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
190 1FR NONE NT NSCR 0 002 LEG1 NLCA TOPS 10 NIL NILSFC
NILLATA 0 NIL NIL 00 N $
TABLE WATSAUTH
IBNTST5 Y Y Y ( MCI 10THRU15) ( ATT 20THRU29) ( ITT GLOBAL)
(SPCL EWATS ALLSPCL)$
TABLE STDPRTCT
LEG1 ( 1) ( 0)
 . SUBTABLE STDPRT
 . 10222 10222 T NP 0 IBNRTE 103 5 18 NONE
 .  . TABLE IBNRTE
 .  .  103 EOW N N N MCI 10THRU19 N 39 EWTV5 0
 .  . EXIT TABLE IBNRTE
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE   N
LATA IS NIL, THEREFORE NOT AN EQUAL ACCESS CALL
+++ TRAVER: SUCCESSFUL CALL TRACE +++
```

MDC Enhanced WATS (continued)

TRAVER 10XXX example (CHOICE=Y) output example for MDC Enhanced WATS

```
    Resolving VFG: EWTV5 Route with calling digits
1022231725577

    TABLE VIRTGRPS
EWTV5 SIZE 1 POTS 0025555555 191 Y $
IBNRTE EOW Route WIC will be used
TABLE LINEATTR
191 EOW NONE NT NSCR 0 613 EWAT NLCA TOPS 10 NIL NILSFC
LATA1 0 NIL NIL 00 N $
TABLE STDPRTCT
EWAT ( 1) ( 1)
 . SUBTABLE STDPRT
. 10222 10222 EA DD 5 P MCI1 MCI Y OFRT 889 6 20 Y
.  . TABLE OFRT
.  .  889 (CND EA INTNL SK 3)
.  .      (S D OGEAMCI)
.  .      (S D ISUP2WMCI)
.  .      (CND ALWAYS SK 2)
.  .      (N D OGEAMCI 15 D121 N)
 .  .      (N D ISUP2WMCI 0 D121 N) $
.  . EXIT TABLE OFRT
. TABLE STDPRTCT
. MCI1 ( 1) ( 0)
.  . SUBTABLE STDPRT
 .  . 3 9 EA DD 0 T NA MCI N
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE   N
TABLE HNPACONT
613 717 2 ( 35) ( 1) ( 0)
 . SUBTABLE HNPACODE
 . 317 319 FRTE 717
 . SUBTABLE RTEREF
 .  717 S D OGEAMCI
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
OVERLAP CARRIER SELECTION (OCS) APPLIES
TABLE OCCINFO
MCI 0222 TRANS Y Y Y Y Y N N Y Y Y Y LONG 0 FGRPD N N N N N N
N N N Y N N
TABLE EASAC
TUPLE NOT FOUND
```

MDC Enhanced WATS (continued)

TRAVER 10XXX example (CHOICE=Y) output example for MDC Enhanced WATS

```
TABLE LATAXLA
LATA1 317 INTER INTER STD
Using Equal Access (EA) route   OFRT  889 from Pretranslation
TABLE OFRT
 889 CND EA INTNL SK 3
     S D OGEAMCI
     S D ISUP2WMCI
     CND ALWAYS SK 2
     N D OGEAMCI 15 D121 N
     N D ISUP2WMCI 0 D121 N
EXIT TABLE OFRT
TABLE WATSBAND
Using WATS carrier: MCI
613 MCI 3172557777 15
TABLE BANDSETS
Band 15 is valid for bandset: 10THRU15
TABLE BANDSETS
Band 15 is valid for bandset: 10THRU19

+++ TRAVER: SUCCESSFUL CALL TRACE +++

DIGIT TRANSLATION ROUTES
1 OGEAMCI               3172557777         ST
2 ISUP2WMCI             3172557777         ST
TREATMENT ROUTES.  TREATMENT IS: GNCT
1 T120
+++ TRAVER: SUCCESSFUL CALL TRACE +++
```

TRAVER of unauthorized 10XXX call

This is an example of a 10XXX call which ends up as an Unauthorized Outwards WATS call. Per table WATSBAND, the band for STS 319 is 17. According to table IBNRTE, bandset MCI 10 thru 19, band 17 is valid. The call is unauthorized because of table WATSAUTH, MCI 10 thru 15. Band 17 does not fall within the allowed range of the table WATSAUTH. Whenever there is an entry in table WATSAUTH associated with the call, the bandset referenced there is also used to check the validity of the route.

MDC Enhanced WATS (continued)

TRAVER of unauthorized 10XXX call output example for MDC Enhanced WATS

```
TRAVER L 6215000 145102223192557777 b rtevfg all
TABLE IBNLINES
HOST 00 0 01 16 0 DT STN IBN 6215000 IBNTST 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE NCOS
IBNTST 0 TST10 0 0 ( XLAS CXT1 NXLA NDGT) ( OHQ 0 TONE_OHQ)
( CBQ 0 1 Y 2) ( ERWT )$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA,
VACTRMT, AND DIGCOL
IBNTST NXLA CXT3 NXLA 0 TST1
TABLE DIGCOLTST1 1 COL S 2
TABLE IBNXLA: XLANAME CXT1
CXT1 145 NET N Y N 3 Y POTS N N GEN ( LATTR 190)
(EWAUTH IBNTST5)
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
190 1FR NONE NT NSCR 0 002 LEG1 NLCA TOPS 10 NIL NILSFC
NILLATA 0 NIL NIL 00 N $
TABLE WATSAUTH
IBNTST5 Y Y Y ( MCI 10THRU15) ( ATT 20THRU29) ( ITT GLOBAL)
(SPCL EWATS ALLSPCL)$
TABLE STDPRTCT
LEG1 ( 1) ( 0)
 . SUBTABLE STDPRT
 . 10222 10222 T NP 0 IBNRTE 103 5 18 NONE
 .  . TABLE IBNRTE
 .  .  103 EOW N N N MCI 10THRU19 N 39 EWTV5 0
 .  . EXIT TABLE IBNRTE
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE   N
LATA IS NIL, THEREFORE NOT AN EQUAL ACCESS CALL
+++ TRAVER: SUCCESSFUL CALL TRACE +++
DIGIT TRANSLATION ROUTES
1 VFG: EWTV5            102223192557777
 TREATMENT ROUTES.  TREATMENT IS: GNCT
1 T120
+++ TRAVER: SUCCESSFUL CALL TRACE +++
```

MDC Enhanced WATS (continued)

TRAVER of unauthorized 10XXX call output example for MDC Enhanced WATS

```
Resolving VFG: EWTV5 Route with calling digits
1022231925577

TABLE VIRTGRPS
EWTV5 SIZE 1 POTS 0025555555 191 Y $
IBNRTE EOW Route WIC will be used
TABLE LINEATTR
191 EOW NONE NT NSCR 0 613 EWAT NLCA TOPS 10 NIL NILSFC LATA1
0 NIL NIL 00 N $
TABLE STDPRTCT
EWAT ( 1) ( 1)
 . SUBTABLE STDPRT
 . 10222 10222 EA DD 5 P MCI1 MCI Y OFRT 889 6 20 Y
 .  . TABLE OFRT
 .  .  889 (CND EA INTNL SK 3)
 .  .      (S D OGEAMCI)
 .  .      (S D ISUP2WMCI)
 .  .      (CND ALWAYS SK 2)
 .  .      (N D OGEAMCI 15 D121 N)
 .  .      (N D ISUP2WMCI 0 D121 N) $
.  . EXIT TABLE OFRT
 . TABLE STDPRTCT
 . MCI1 ( 1) ( 0)
 .  . SUBTABLE STDPRT
 .  . 3 9 EA DD 0 T NA MCI N
. SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE   N
TABLE HNPACONT
613 717 2 ( 35) ( 1) ( 0)
 . SUBTABLE HNPACODE
 . 319 319 FRTE 717
 . SUBTABLE RTEREF
 .  717 S D OGEAMCI
 . EXIT TABLE RTEREF
OVERLAP CARRIER SELECTION (OCS) APPLIES
TABLE OCCINFO
MCI 0222 TRANS Y Y Y Y Y N N Y Y Y Y LONG 0 FGRPD N N N N N N
N N Y N N N
TABLE EASAC
TUPLE NOT FOUND
TABLE LATAXLA
LATA1 319 INTER INTER STD
Using Equal Access (EA) route   OFRT  889 from Pretranslation
TABLE OFRT
```

MDC Enhanced WATS (continued)

TRAVER of unauthorized 10XXX call output example for MDC Enhanced WATS

```
889 CND EA INTNL SK 3
     S D OGEAMCI
     S D ISUP2WMCI
     CND ALWAYS SK 2
     N D OGEAMCI 15 D121 N
     N D ISUP2WMCI 0 D121 N
EXIT TABLE OFRT
TABLE WATSBAND
Using WATS carrier: MCI
613 MCI 3192557777 17
TABLE BANDSETS
Band 17 is not valid for bandset: 10THRU15
TABLE BANDSETS
Band 17 is valid for bandset: 10THRU19

+++ TRAVER: SUCCESSFUL CALL TRACE +++

TREATMENT ROUTES.  TREATMENT IS: UNOW
1 T120
+++ TRAVER: SUCCESSFUL CALL TRACE +++
```

TRAVER of DA 5551212 call

This example shows how a directory assistance (DA) call can be set up which utilizes the EOW route selection process. Care must be taken in utilizing route selection on seven digit called numbers. When table WATSBAND is used to get the called band, it will first prefix the seven digits by the SNPA of the VFG referenced in the route element. If the SNPA is datafilled, it will use that band

MDC Enhanced WATS (continued)

instead of the one which may be in table WATSBAND that reflects the seven digit call. For example:

1. Assume the following entries were in table WATSBAND:
   a. 613 SPCLEWATS 613 101
   b. 613 SPCLEWATS 555 103
2. If the entries above were in table WATSBAND, all other tables remain as they were previously described. The routes which would be produced by the following TRAVER are the following:
   a. Digit translation routes
   b. VFG: INTRA - 5551212

      VFG: SPCL1 - 5551212

      VFG: ALLSP - 5551212

      This is because the called number would map into the intra-LATA band due to the SNPA of the VFG being prefixed onto the seven digit number of 5551212.

MDC Enhanced WATS (continued)

TRAVER of DA 5551212 call output example for MDC Enhanced WATS

```
TRAVER L 6215000 1445551212 b
TABLE IBNLINES
HOST 00 0 01 16 0 DT STN IBN 6215000 IBNTST 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE NCOS
IBNTST 0 TST10 0 0 ( XLAS CXT1 NXLA NDGT) ( OHQ 0 TONE_OHQ)
( CBQ 0 1 Y 2) ( ERWT )$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA,
VACTRMT,
AND DIGCOL
IBNTST NXLA CXT3 NXLA 0 TST1
TABLE DIGCOL
TST1 1 COL S 2
TABLE IBNXLA: XLANAME CXT1
CXT1 144 NET N Y N 3 Y POTS N N GEN ( LATTR 190) (EWAUTH IBNTST4)
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
190 1FR NONE NT NSCR 0 002 LEG1 NLCA TOPS 10 NIL NILSFC
NILLATA 0 NIL NIL 00 N $
TABLE WATSAUTH
IBNTST4 Y Y N ( MCI 10THRU15) ( ATT 20THRU29) ( ITT GLOBAL)
(SPCL EWATS ALLSPCL)$
TABLE STDPRTCT
LEG1 ( 1) ( 0)
 . SUBTABLE STDPRT
 . 55 610 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE   N
TABLE HNPACONT
002 60 1 ( 3) ( 1) ( 0)
 . SUBTABLE HNPACODE
 . 555 555 LRTE 1
 . SUBTABLE RTEREF
 .    1 T IBNRTE 101
 .  . TABLE IBNRTE
```

TRAVER of DA 5551212 call output example for MDC Enhanced WATS

```
.  .  101 (EOW N N N SPCLEWATS INTRALAT Y 101 INTRA 0)
 .  .      (EOW N N N SPCLEWATS SAC Y 100 SACVG 0)
 .  .      (EOW N N N SPCLEWATS DA411 Y 102 DA411 0)
 .  .      (EOW N N N SPCLEWATS DA555 Y 103 DA411 0)
 .  .      (EOW N N N SPCLEWATS FGB Y 104 FGBVG 0)
 .  .      (EOW N N N SPCLEWATS SPCL1 Y 105 SPCL1 0)
 .  .      (EOW N N N SPCLEWATS SPCL2 Y 106 SPCL2 0)
 .  .      (EOW N N N SPCLEWATS ALLSPCL Y 107 ALLSP 0) $
 .  . EXIT TABLE IBNRTE
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LATA IS NIL, THEREFORE NOT AN EQUAL ACCESS CALL
+++ TRAVER: SUCCESSFUL CALL TRACE +++

DIGIT TRANSLATION ROUTES
1 VFG: DA411            5551212
2 VFG: SPCL2            5551212
3 VFG: ALLSP            5551212

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 T120
+++ TRAVER: SUCCESSFUL CALL TRACE +++
```

SERVORD

MDC Enhanced WATS does not use SERVORD.

MDR Data in the AMA Stream

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: MDC00018

Release applicability

BCS28 and up

Prerequisites

To operate, MDR Data in the AMA Stream has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC Standard, MDC00003

Description

The MDR Data in the AMA Stream feature provides the capability of transmitting message detail recording (MDR) information to the Bell operating company (BOC) revenue accounting office (RAO) in the same data stream that is used to transmit AMA billing data for the DMS-100/200 switching systems.

MDR provides end users with detailed information on the use of telecommunications facilities and features. The primary user of MDR is the business end user.

Previously, MDR information was written to a separate billing stream called Station Message Detail Recording (SMDR). This feature provides the base capability to write MDR information to the same stream as the AMA billing data for use by the RAO.

> ***Note:*** This feature is referred to as the MDR Data in the AMA Stream feature throughout this feature description.

The MDR Data in the AMA Stream feature provides the following capabilities:

- Business feature recording using expanded Bellcore AMA format (EBAF) module codes appended to AMA records.
- Introduction of call code 159. Call code 159 is only generated when option MDRRAO is assigned to the customer group and the call would not normally generate an AMA record. New module codes 100 and possibly

101 are appended to a call code 159 record for facility type recording. Call code 159 only supports one structure code and therefore appends existing module codes 022 (long duration) and 025 (circuit seizure and release) to reflect long-duration and unanswered calls. Call code 159 is also generated instead of call codes 011, 021, 032, and 085 for terminations when option MDRRAO is assigned to the customer group originating the call and the call is a numbering plan (NP) type call. If the call is a toll call, a different call code (for example, 006) is generated instead of call code 159.

- Ability to assign option MDRRAO on a customer group basis and eliminate the need for a separate recording stream. Generating SMDR records D1, D2, D3, and D4 and the AMAB150 log are still possible on a customer group basis. However, when option MDRRAO is assigned to a customer group, calls from that customer group no longer generate SMDR records or AMAB150 logs. Instead, Local Automatic Message Accounting (LAMA) records with module codes appended are generated, and AMAB117 logs are generated instead of AMAB150 logs. Refer to “Log reports" in this feature description.
- Ability to assign incoming facility type options (CCSA, TDMTT, FX, and ETS) to incoming IBN trunk groups. Prior to this feature, these options were only available to outgoing IBN trunk groups (IBNTO) and two-way IBN trunk groups (IBNT2).
- Introduction of the following module codes:
  - — module code 100 (business group features)
  - — module code 101 (tandem digits dialed)

This feature uses the business group features (BGF) module, module code 100, for the recording of business feature information. This module is appended to existing billing records in order to record MDR information. The RAO separates the MDR information from the billing records and forwards the information to the end user or processes the data. Refer to “Billing" in this feature description for more information about the BGF module.

Previously, usage information about end users' private facilities (such as tie trunks or foreign exchange [FX] lines) was recorded in the AMA record generated for a call. This facility usage information is considered MDR data. When the MDR Data in the AMA Stream feature is activated, usage data on IBNTO and IBNT2 trunks is recorded in the BGF module (module code 100) and is appended to either a call code 159 record (if the call type is NP) or another call code record (if the call type is delay dial [DD]). If tandem tie trunks (TDMTT) are used, the BGF module (module code 100) and the tandem digits dialed (TDD) module (module code 101) are both appended to the AMA

MDR Data in the AMA Stream (continued)

record generated. Within the module code 100 record, field INCOMING FACILITY TYPE reflects the incoming or outgoing facility type.

When the MDR Data in the AMA Stream feature is not activated, this usage information continues to be recorded in the AMA billing records identified by call codes 021, 032, 011, and 085.

Operation

MDRRAO is activated on a customer group basis. To accomplish the feature activation, field OPTIONS in Table CUSTSMDR (Customer Group SMDR Option) is datafilled MDRRAO. Also, field BUSNSID is datafilled with a business ID number used to identify the business to which the customer group belongs. This business ID number can contain up to ten digits and is recorded in field CALL COMPLETION CODE of module code 100.

When option MDRRAO is datafilled for a customer group, the following conditions affect the generation of AMA and SMDR data:

- Disables SMDR format recording of D1, D2, D3, and D4 records for the specified customer group. When SMDR is activated using a line, trunk, VFG option, or Table IBNXLA (IBN Translation) translations, customer group information for the call is generated in the AMA stream in the form of module code 100 and is appended to the AMA record generated.
- Disables the ability to generate call codes 011, 021, 032, or 085 when terminating on an IBNTO or IBNT2 trunk. Module code 100 is generated and appended to either a call code 159 record or another AMA record.
- Disables AMAB150 log recording for customer groups using MDR recording. AMAB117 logs replace AMAB150 logs for MDR. Refer to “Log reports" in this feature description.

AMA record generation is currently supported on an individual leg basis for each leg of a call. The same is true for MDR. For each leg of a call where MDR is required, module 100 is appended to the AMA record for that leg of the call. If no AMA record is due for that leg, call code 159 is generated so that module code 100 can be appended.

Whenever module code 100 is appended to an AMA record, the value in the business customer ID field is the value found in field BUSNSID of Table CUSTSMDR.

MDR Data in the AMA Stream (continued)

The trigger mechanism for MDRRAO is the same trigger mechanism currently employed for SMDR. Option SMDR must be activated in one of the following data tables to generate MDR data:

- IBNLINES (IBN Line Assignment) (for IBN lines)
- TRKGRP (Trunk Group) (for IBN trunk groups)
- VIRTGRPS (Virtual Facility Groups) (for IBN virtual facility groups)
- IBNXLA (IBN Translation) (for IBN translations)
- DNROUTE (Directory Number Route) (for Direct Inward System Access [DISA] lines)

Note: For information on how to activate SMDR, refer to *Meridian Digital Centrex Station Message Detail Recording Reference Guide*, 297-2071-119.

When SMDR is triggered by one of the listed mechanisms, and option MDRRAO is datafilled in Table CUSTSMDR, in all cases module code 100 is generated and the service observed, traffic sampled field in the base AMA record structure is set to 4, 5, 6, or 7. MDR information is no longer a separate stream as was SMDR. MDRRAO instructs the AMA system to include customer group information in the AMA stream for the call on an optional basis.

Note: For DISA calls, when field SMDRTO is set to Y in Table DNROUTE and SMDR is activated during translations, two MDR records are generated if calls are from customer groups with MDR assigned. SMDR record generations are unchanged.

There is no need to have any new data type in Table CRSMAP (Call Record Stream Mapping) to support MDR in the AMA stream.

It is possible for one customer group to send MDR information to the AMA stream while another customer group sends SMDR information to the SMDR stream. It is not possible to isolate and send MDR information to any stream other than AMA.

In module 100, this feature provides information for the fields shown in “Billing" in this feature description. Unsupported fields are filled with hexadecimal (hex) F characters in the module appended to the record.

If the outgoing trunk is a tandem tie trunk, the TDD module (module 101) is appended. When module 101 is appended, the terminating NPA/number field in the base AMA record structure is filled with zeros, and the study indicator field shows no called number (a 3 in the sixth character). A tandem tie trunk

MDR Data in the AMA Stream (continued)

is indicated by assigning the TDMTT facility type (FACTYPE) option to an IBNTO or IBNT2 trunk group. Fields of the TDD module (module code 101) are shown and explained in “Billing" in this feature description.

This feature also provides the capability to designate an incoming facility type as a CCSA, TDMTT, ETS, or FX facility by assigning the facility type (FACTYPE) option to incoming IBN trunk groups (IBNTI) in Table TRKGRP. Prior to this feature, these facility types only existed for IBNTO and IBNT2 trunks. The incoming facility type is recorded in field INCOMING FACILITY TYPE of the BGF module (module code 100).

When a trunk is represented, positions 2 to 5 of field INCOMING TRUNK FACILITY ID, facility group ID, are populated with the field ADNUM value from Table CLLI (Common Language Location Identifier).

If the office has Customer Dialed Account Recording (CDAR), without MDRRAO, a dialed account code appears in the Bellcore AMA record and in the SMDR record (if an AMA record was generated). If the office has CDAR with MDRRAO, the account code appears only in the LAMA record.

All fields supported for module codes 100 and 101 are defined in “Billing" in this feature description.

This feature also adds field GROUPID to Table CUSTENG (Customer Group Engineering). This field is an administrative field used to identify customer groups in the AMA stream. The identification is done through option AMACUST in Table CUSTSMDR, which attaches module code 120 to the resulting record when feature package NTX851AA, SMDR Derived from BCR AMA, is present. For more information on module 120, refer to *Bellcore Format Automatic Message Accounting Reference Guide*.

Use of feature package NTX851AA may affect Device Independent Recording Package (DIRP) recording of AMA records. The volume of AMA records recorded by DIRP is increased by customer groups that now generate call code 159 for calls that previously only generated SMDR records. Also, the size of the AMA records being generated by these customer groups is increased by the size of the module codes being attached to their AMA records (module code 100 and possibly module code 101). These two factors increase the rate at which AMA DIRP volumes are filled. The actual impact on DIRP depends on the percentage of the total AMA volume affected by this feature. This is based on the number of customer groups that are assigned option MDRRAO, and the volume of SMDR records that was being generated by those customer groups before the addition of option MDRRAO. The previous factors should be studied and used to determine if AMA DIRP volumes should

be increased in size and rotated more frequently to prevent the increased likelihood of an AMA DIRP volume overflow condition.

Translations table flow

The MDR Data in the AMA Stream translations tables are described in the following list:

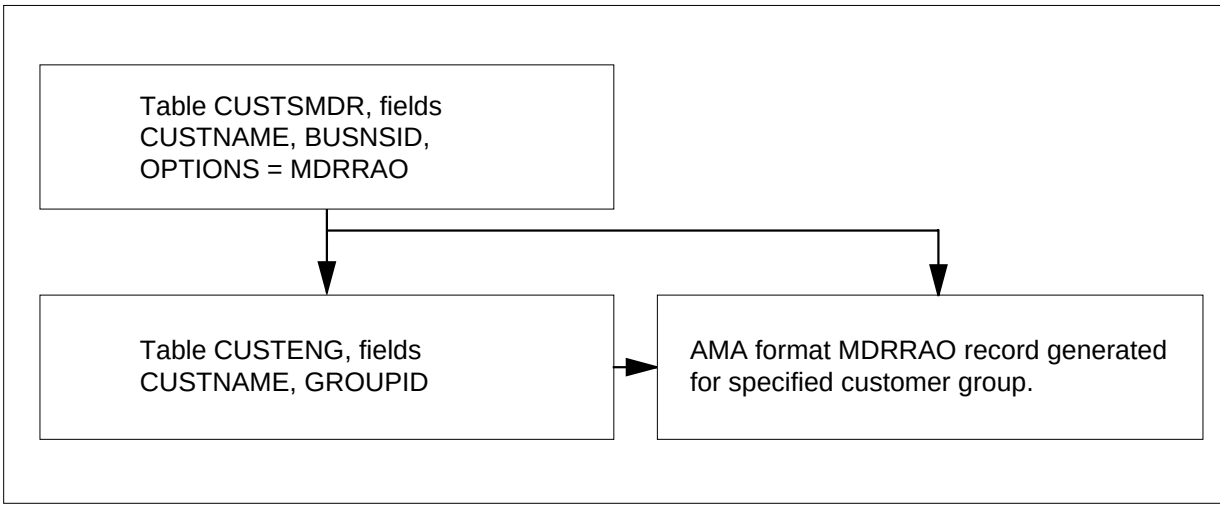
- Table CUSTSMDR (Customer Group SMDR Option) lists the SMDR options assigned to each customer group.
- Table CUSTENG (Customer Group Engineering) lists the values for the engineering parameters and options for each customer group.

  Note: Option SMDR must be set to Y in tables IBNLINES, TRKGRP, VIRTGRPS, IBNXLA, and DNROUTE.

- Table TRKGRP (Trunk Group) contains end user defined data associated with each trunk group existing in the switching unit.

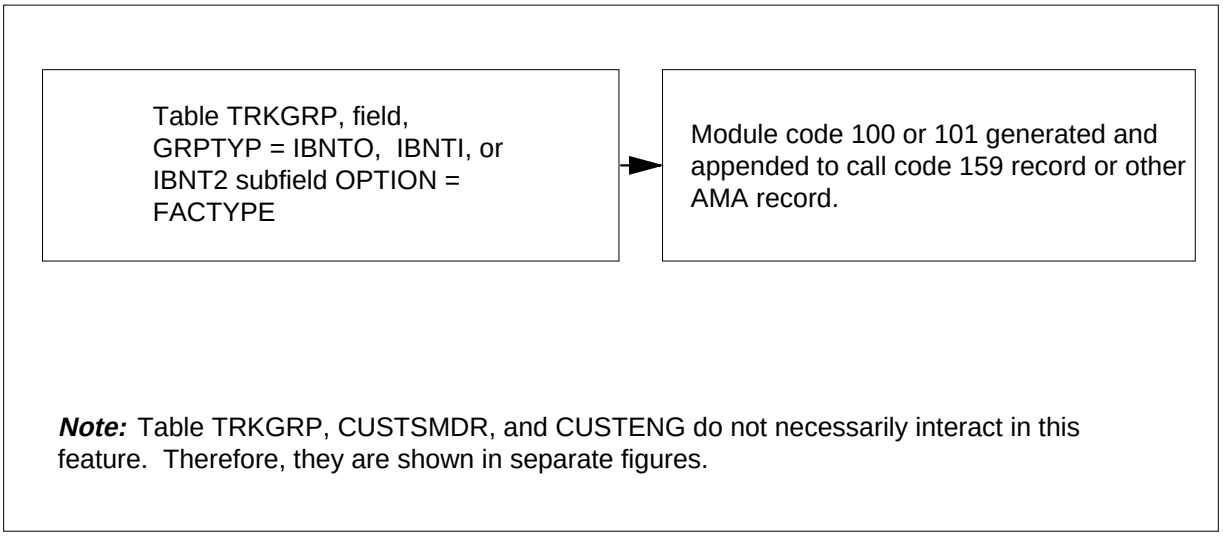
The MDR Data in the AMA Stream translation process is shown in the flowcharts that follow. The first flowchart and data show how MDR in the AMA stream is generated by a customer group. The second flowchart and data show how MDR in the AMA stream is generated by a trunk group. The two processes are separated to illustrate that they are not directly related, and can occur independently.

Table flow for MDR Data in the AMA Stream (tables CUSTSMDR and CUSTENG)



MDR Data in the AMA Stream (continued)

Table flow for MDR Data in the AMA Stream (Table TRKGRP)



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

Datafill example for MDR Data in the AMA Stream

Datafill table	Example data
CUSTSMDR	MDCGRP1 1234 (MDRRAO) (RAO) (ANSTIM 10) $
CUSTENG	MDCGRP1 1 1 Y PUBLIC 101 $
TRKGRP	INMF IBNTI 0 ELO NCRT MDCGRP1 0 0 5554111 ANSIDISC 0 N N N N N Y N 0 0 N N N $ (FACTYPE ETS) $ OGMF2

Limitations and restrictions

The following limitations and restrictions apply to MDR Data in the AMA Stream:

- MDRRAO is not allowed if the office is using NT format for AMA recording. MDRRAO can be activated only in offices whose AMA data is recorded in Bellcore format.
- This feature does not provide terminating call codes 011, 021, 032, and 085 if the customer group originating the call is assigned option MDRRAO. When the MDR Data in the AMA Stream feature is assigned to customer groups originating calls that terminate to IBNTO and IBNT2 trunks assigned option FACTYPE, call code 159 (NP type call) or a different call code with module codes 100, 101, or both appended, is generated. If option MDRRAO is assigned and option SMDR is set to Y throughout translations for calls terminating to the IBNTO and IBNT2 trunks (with

option FACTYPE assigned), call code 159 is generated. If SMDR is set to N everywhere in translations, no call code is generated for NP calls assigned the MDR Data in the AMA Stream feature. However, if the call is a toll call (field TYPCALL is set to DD in Table STDPRTCT.STDPRT [Standard Pretranslator (subtable)]), call code 159 is not generated, but module codes 100, 101, or both, are appended to the record generated.

- This feature does not completely duplicate information between SMDR and AMA records. Some of the information provided by SMDR format call records is not recorded when MDRRAO is used.
- The following fields of module code 100 are not currently supported by this feature:
  - — call completion code
  - — business feature code
  - — automatic route selection pattern
  - — facility restriction level
  - — end of dialing time
  - — queue elapsed time
- This feature does not provide carrier access terminating modules 020 and 021, and associated call processing capability.
- This feature does not provide MDR directly to the end user premises. MDR data downstreams to the RAO.

Interactions

The following paragraphs describe the interactions between MDR Data in the AMA Stream and other functionalities.

- Common Control Switching Arrangement (CCSA) and TDMTT. MDRRAO has no interaction with the following:
  - — CCSA IBN line option
  - — CCSA or TDMTT IBN VFG option

If an IBN line with option CCSA originates a call, the call type is NP, the line is a member of a customer group designated for MDRRAO, and the call triggers MDR (option SMDR in Table IBNXLA activated in translations), the result is an AMA record with call code 021, module code 100. The same is true of option VFG producing either call code 021 or 032 with module codes 100, 101, or both, appended to the record.

MDR Data in the AMA Stream (continued)

End users of these options are expecting call code 021 (or 032) for an explicit purpose and do not wish to have the same capability provided with MDRRAO.

If the customer group is not an MDRRAO customer group, the result is as follows:

- AMA record with call code 021 without module 100
- record code D1 SMDR record (old NT format)
  - — Derived Station Message Detail Recording (DERVSMDR). The MDR Data in the AMA Stream feature takes precedence over the DERVSMDR feature. The MDRRAO and DERVSMDR features indicate their activation by writing a value into the first character of the study indicator field of the resulting AMA record. If both features are in effect for the same AMA record, the value used for MDRRAO takes precedence over the value used for DERVSMDR.
  - — Station Message Detail Recording (SMDR). Although the MDR Data in the AMA Stream feature disables SMDR records for a customer group, SMDR must be activated in translations for MDRRAO to operate.

Activation/deactivation by the end user

MDR Data in the AMA Stream requires no activation or deactivation by the end user.

Billing

This feature uses EBAF module codes to attach SMDR-type information to billing records. Module codes 100 and 101 and call code 159 are introduced by this feature. Call code 159 uses structure code 00001 with the appropriate module codes attached. Terminating call codes 011, 021, 032, and 085 are discontinued for a customer group when option MDRRAO is assigned in table CUSTSMDR to the customer group originating the call.

The customer group identification number contained in module code 120, which is appended to the call record when option AMACUST is assigned in Table CUSTSMDR and feature package NTX851AA is present, is taken from field GROUPID in table CUSTENG.

The following sections describe the Bellcore format modules and records introduced by this feature. For a complete description of AMA module codes, structure codes, call codes, and data fields, refer to *Bellcore Format Automatic Message Accounting Reference Guide*.

Module code 100—BGF

The following table lists the fields contained in module 100.

Module code 100-BGF

AMA record field	Number of characters
Module code 100	4
Business customer identification	12
Call completion code (Note)	2
Business feature code (Note)	2
Automatic route selection pattern (Note)	2
Facility restriction level (Note)	2
Incoming facility type	4
Incoming trunk facility identification	10
Outgoing facility type	4
Outgoing trunk facility identification	10
End of dialing time (Note)	8
Queue elapsed time (Note)	4
Note: These fields are not supported by this feature. The value for all characters in these fields is hexadecimal F.	

The following three tables list the contents of the module code 100 fields.

Business customer identification field (Sheet 1 of 2)

Character position(s)	Contents
1	Padding
2-11	10-digit business customer ID ***Note:*** The digits in this field are taken from the value of field BUSNSID in Table CUSTSMDR.
12	Sign (hex C)

MDR Data in the AMA Stream (continued)

Business customer identification field (Sheet 2 of 2)

Character position(s)	Contents
1-3	where, 001 = line 002 = attendant console 011 = foreign exchange (FX) 021 = common control switching arrangement (CCSA) 032 = tandem tie trunk (TDMTT) 085 = electronic tandem switch (ETS) 999 = unknown
4	Sign (hex C)

Incoming facility type field

Character position(s)	Contents
1	Padding (0)
2-5	Trunk group ID number
6-9	Trunk group member number
10	Sign (hex C)

The following figure is an example of an AMA record generated for call code 100 appended.

Call code 100 appended

```
*HEX ID:  AA STRUCTURE CODE:40001C  CALL CODE:159C
 SENSOR TYPE:036C  SENSOR ID:0000000C  REC OFFICE
TYPE:036C
 REC OFFICE ID:0000000C  DATE:60101  TIMING IND:00000C
 STUDY IND:0200030C ANSWER:0C SERVICE OBSERVED:4C
 OPER ACTION:0C  SERVICE FEATURE:000C  ORIG NPA:613C
 ORIG NUMBER:7224111C OVERSEAS IND:1C  TERM NPA:00613C
 TERM NUMBER:6221424C  CONNECT TIME:1411257C
 ELAPSED TIME:000000058C  MODULE CODE:100C
 BUSINESS CUSTOMER ID:00123456789C  CALL COMPLETION
CODE:FF
 BUSINESS FEATURE CODE:FF ARS_PATTERN:FF
 FACILITY RESTRICTION LVL:FF INCOMING FACILITY TYPE:085C
 INCOMING TRUNK FACILITY ID:000530001C
 OUTGOING FACILITY TYPE:021C
 OUTGOING TRUNK FACILITY ID:000520001C
 END OF DIALING TIME:FFFFFFFF  QUEUE ELAPSED TIME:FFFF
 MODULE CODE:000C
```

Module code 101—TDD

The following table provides information for the data fields in module code 101.

Module code 101-TDD

AMA record field	Number of characters
TDD module code 101	4
Significant digits in next field	4
Tandem digits dialed 1	12
Tandem digits dialed 2	14
Access code	6
Note: This field is not supported by this feature. The value for all characters in this field is F.	

MDR Data in the AMA Stream (continued)

The following three tables list the contents of the module code 101 fields.

Significant digits in next field field

Character position(s)	Contents
1-11	Tandem digits dialed ***Note:*** First through eleventh tandem digits dialed of a possible 24-digit number.
12	Sign (hex C)

Tandem digits dialed 1 field

Character position(s)	Contents
1-13	Tandem digits dialed ***Note:*** The number of significant digits is the total number of tandem digits dialed, stored in fields TANDEM DIGITS DIALED 1 and TANDEM DIGITS DIALED 2.
14	Sign (hex C)

Tandem digits dialed 2 field

Character position(s)	Contents
1-3	Number of significant digits ***Note:*** The number of significant digits is the total number of tandem digits dialed, stored in fields TANDEM DIGITS DIALED 1 and TANDEM DIGITS DIALED 2.
4	Sign (hex C)

The following figure is an example of an AMA record generated for call codes 100 and 101 appended.

```
*HEX ID:AA STRUCTURE CODE:40001C  CALL CODE:006C
 SENSOR TYPE:036C  SENSOR ID:0000000C  REC OFFICE
TYPE:036C
 REC OFFICE ID:0000000C  DATE:60101  TIMING IND:00000C
 STUDY IND:0200030C ANSWER:0C SERVICE OBSERVED:4C
 OPER ACTION:0C  SERVICE FEATURE:000C  ORIG NPA:613C
 ORIG NUMBER:6212222C OVERSEAS IND:1C  TERM NPA:00000C
 TERM NUMBER:0000000C  CONNECT TIME:1728587C
 ELAPSED TIME:000000032C  MODULE CODE:100C
 BUSINESS CUSTOMER ID:00000001234C  CALL COMPLETION
CODE:FF
 BUSINESS FEATURE CODE:FF ARS_PATTERN:FF
 FACILITY RESTRICTION LVL:FF  INCOMING FACILITY TYPE:001C
 INCOMING TRUNK FACILITY ID:000000000C
 OUTGOING FACILITY TYPE:032C
 OUTGOING TRUNK FACILITY ID:000520001C
 END OF DIALING TIME:FFFFFFFF  QUEUE ELAPSED TIME:FFFF
 MODULE CODE:101C  SIG DIGITS NEXT FIELD:008C
 TANDEM DIGITS DIALED1:00096617777C
 TANDEM DIGITS DIALED2:00000000000C  ACCESS_CODE:FFFFFF
 MODULE CODE:000C
```

When module code 101 is appended, the terminating number field of the base AMA record shows zeros because the number is included in module code 101. Also, the study indicator field of the base AMA record shows a 3 in the sixth character to indicate no called number.

Call code 159

This call code can only be generated by IBN customer groups that have the MDR Data in the AMA Stream feature. The call code is generated for calls that require MDRRAO information but would not otherwise generate a call record. Call code 159 always attaches module code 100. Module codes 101 (TDD), 025 (circuit seizure and release), and 022 (long duration) can also be appended to call code 159. Call code 159 uses the existing structure code 00001.

Call codes 011, 021, 032, and 085

It is no longer possible to produce call codes 011, 021, 032, or 085 for terminations to IBNTO and IBNT2 trunks if the MDR Data in the AMA Stream feature is in effect for a particular call. These call codes are replaced by module codes attached to call code 159 or another call code that may be produced by the call. If the MDR Data in the AMA Stream feature is not in effect for a particular call, call codes 011, 021, 032, or 085 can be generated without being appended.

MDR Data in the AMA Stream (continued)

Service observed, traffic sampled field

The service observed, traffic sampled field applies to all AMA records with structure codes that support the service observed, traffic sampled field. The contents of the service observed, traffic sampled field are listed in the following table.

Service observed, traffic sampled field

Character position(s)	Contents
1	0 = Not service observed, not traffic sampled 1 = Service observed, not traffic sampled 2 = Not service observed, traffic sampled 3 = Service observed, traffic sampled 4 = Not service observed, not traffic sampled, MDR 5 = Service observed, not traffic sampled, MDR 6 = Not service observed, traffic sampled, MDR 7 = Service observed, traffic sampled, MDR

Station Message Detail Recording

MDR Data in the AMA Stream does not affect Station Message Detail Recording.

Datafilling office parameters

Datafill procedure for NUM_OF_BC_LAMA_UNITS

This feature may increase the number of LAMA recording units required. The value of office parameter NUM_OF_BC_LAMA_UNITS in Table OFCENG (Engineered Office) should be examined to determine if additional LAMA recording units are required. All IBN calls from customer groups with option MDRRAO and SMDR set to Y in the call translations require a LAMA recording unit regardless of whether the calls are marked NP or DD.

Note: Office parameter NUM_OF_BC_LAMA_UNITS was replaced with CRS_SUBRU_POOL1_SIZE and CRS_SUBRU_POOL2_SIZE in BCS31.

MDR Data in the AMA Stream (continued)

For more information, refer to *Bellcore Format Automatic Message Accounting Translations Guide*.

Datafill procedure for NO_OF_SMDR_REC_UNITS

This feature may decrease the number of SMDR recording units required. The value of office parameter NUM_OF_SMDR_REC_UNITS in Table OFCENG should be examined to determine if additional SMDR recording units are required. Calls from IBN customer groups with option MDRRAO do not use SMDR recording units unless the calls involve a DISA number or the Account Code (ACC) feature. If every customer group in the office has option MDRRAO, the number of SMDR recording units should not be set to 0 because SMDR may still be needed by some features.

Note: Even if the office is configured solely for MDR (no SMDR recording), office parameter NO_OF_SMDR_REC_UNITS must still be nonzero in Table OFCENG, and SMDR_OFFICE must be set to Y.

The following table shows the office parameters used by MDR Data in the AMA Stream. For more information about office parameters, refer to *Office Parameters Reference Manual.*

Office parameters used by MDR Data in the AMA Stream

Table name	Parameter name	Explanation and action
OFCENG	NUM_OF_BC_LAMA_UNITS	This parameter specifies the number of LAMA recording units required. Enter a value from 0 to 32,767. The default value is 2.
OFCENG	NO_OF_SMDR_REC_UNITS	This parameter specifies the number of SMDR recording units required. Enter a value from 0 to 32,767. The default value is 2.

MDR Data in the AMA Stream (continued)

Datafill sequence

The following table lists the tables that require datafill to implement MDR Data in the AMA Stream. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for MDR Data in the AMA Stream

Table	Purpose of table
CUSTENG	Customer Group Engineering. This table contains the values for the engineering parameters and options for each of the customer groups.
CUSTSMDR	Customer Group SMDR Option. This table provides customer groups with a mechanism for generating billing records for calls.
TRKGRP (IBNTO)	Trunk Group. This table contains some of the customer defined data associated with each trunk group existing in the switching unit. Field IBNTO trunk is changed to field FACTYPE to better reflect the function of the field.
TRKGRP (IBNTI)	Trunk Group. This table contains some of the customer defined data associated with each trunk group existing in the switching unit. .
TRKGRP (IBNT2)	Trunk Group. This table contains some of the customer defined data associated with each trunk group existing in the switching unit. Field IBNT2 trunk is changed to field FACTYPE to better reflect the function of the field.

Datafilling table CUSTENG

Table CUSTENG (Customer Group Engineering) contains the values for the engineering parameters and options for each of the customer groups. Field GROUPID is added to Table CUSTENG. This field holds an administrative number that identifies the customer group in the AMA stream. This identification number is written to module code 120, which is appended to any resulting record for a call when option AMACUST is assigned to the customer group in Table CUSTSMDR and feature package NTX851AA is present.

The group identification number datafilled in field GROUPID ranges from 0 to 4095. All customer groups are required to have a unique value for field GROUPID. The exception to this rule is the default value of 0. Any customer group can use this default value; however, setting field GROUPID to 0 is not recommended for customer groups that are assigned option AMACUST.

Note: If the end user attempts to assign a nonzero GROUPID value to a customer group and that value has already been assigned to another customer group, the request is rejected, and an error message is displayed.

The following table shows the datafill specific to MDR Data in the AMA Stream for table CUSTENG. Only those fields that apply directly to MDR Data in the AMA Stream 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
CUSTNAME		customer group name	Customer Group Name. This field specifies the 1- to 16-alphanumeric character name which is assigned to the customer group. Enter the customer group name.
GROUPID		0 to 4095	Customer Group Identification Number. This field specifies the administrative number associated with a specific customer group. All customer groups must have a unique value. Enter a value from 0 to 4095. ***Note:*** Enter the default of 0 if a unique customer group identification number is not desired.

Datafill example for table CUSTENG

The following example shows sample datafill for table CUSTENG.

MAP display example for table CUSTENG

```
CUSTNAME NONCOS NOIBNTMT CONSOLES  DOMAIN GROUPID
                                                OPTIONS
_____________________________________________________
MDCGRP1     1       1       Y      PUBLIC    101
                                                     $
```

Datafilling table CUSTSMDR

Table CUSTSMDR (Customer Group SMDR Option) provides customer groups with a mechanism for generating billing records for calls. Table CUSTSMDR contains the SMDR options assigned to each of the customer groups. Option MDRRAO is added as a value for field OPTIONS in Table CUSTSMDR. The table editor allows compatibility of option MDRRAO with all the other existing option values. However, if option MDRRAO is assigned to a customer group with SMDR options RAO, RNA, SMDRCDT, DERVSMDR, POOL, or NETWORK, these options are deactivated since they are only applicable to SMDR-formatted call records.

MDR Data in the AMA Stream (continued)

Option MDRRAO prevents the customer group from generating any SMDR-formatted records (SMDR-formatted records are replaced by AMA-formatted MDRRAO records). If the end user attempts to add option MDRRAO to a customer group with the options just mentioned, a warning message is displayed.

> ***Note:*** For information on how to apply SMDR to translations, refer to *Meridian Digital Centrex Station Message Detail Recording Reference Guide,* 297-2071-119.

Field BUSNSID is also added to Table CUSTSMDR. This field contains a business ID number for the customer group. The business ID value is used when option MDRRAO is also assigned. If option MDRRAO is not assigned to a particular customer group, the value of field BUSNSID is not used. The business ID number can contain up to ten digits. More than one customer group is allowed to share the same business ID. If a customer group with option MDRRAO makes a call that produces a billing record, module code 100 is attached to the record, and the business customer identification field is filled with the business ID number for that customer group.

> ***Note:*** The customer group identification number that is found in module code 120 when option AMACUST is assigned is taken from field GROUPID in Table CUSTENG, not from field BUSNSID.

The default value for field BUSNSID is 0. However, adding option MDRRAO implies that there exists a valid business identification number to be used for billing purposes. Customer groups that do not have the MDR Data in the AMA Stream feature activated are given a BUSNSID value of 0.

The following table shows the datafill specific to MDR Data in the AMA Stream for table CUSTSMDR. Only those fields that apply directly to MDR

MDR Data in the AMA Stream (continued)

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

Datafilling table CUSTSMDR

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		customer group	Customer Group Name. This field identifies the customer group name. Enter the name of the customer group.
BUSNSID		up to ten digits (0 to 9,999,999,999)	Business Identification Number. This field identifies the business group to which the customer group belongs and appears in the AMA record as identification. Enter up to ten digits (0 to 9,999,999,999). The default value is 0.
OPTIONS		MDRRAO	Options. This field lists the options assigned to the customer group. Enter MDRRAO.

Datafill example for table CUSTSMDR

The following example shows sample datafill for table CUSTSMDR.

MAP display example for table CUSTSMDR

```
CUSTNAME   BUSNSID
                                                        OPTIONS
_____________________________________________________________________
  MDCGRP1      1234
                          ( MDRRAO ) ( RAO ) ( ANSTIM 10 ) $
```

Datafilling table TRKGRP

Table TRKGRP (Trunk Group) contains some of the customer defined data associated with each trunk group existing in the switching unit. Field SPCLBLG for IBNTO and IBNT2 trunks is changed to field FACTYPE to better reflect the function of the field. The facility types currently associated with field SPCLBLG (CCSA, FX, TDMTT, and ETS) are the same for field FACTYPE. Each of these facility options produces different billing records associated with the customer group to which the trunk belongs.

This feature also provides trunk group type IBNTI with the same FACTYPE options (CCSA, TDMTT, FX, and ETS) as trunk group types IBNTO and IBNT2.

MDR Data in the AMA Stream (continued)

It is not necessary to use option FACTYPE to activate MDRRAO. However, when MDRRAO is activated and the trunk group also has option FACTYPE, call codes 011, 021, 032, and 085 are not generated. Instead, module codes 100 or 101 are attached to call code 159 or another call code produced by the call.

The following table shows the datafill specific to MDR Data in the AMA Stream for table TRKGRP. Only those fields that apply directly to MDR Data in the AMA Stream are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table TRKGRP (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
GRPKEY		IBNT0, IBNTI, or IBNT2	Trunk Group Key. This field contains the Common Language Location Identifier (CLLI) associated with the trunk. Ideally, it defines the type of trunk group. Enter IBNT0, IBNTI, or IBNT2.
GRPINFO		see subfields	Group Information. This field consists of several subfields. Only subfields CUSTNAME and OPTIONS apply to this feature.
	CUSTNAME	1- to 16-character name	Customer Group Name. This subfield defines the name of the customer group. Enter the 1- to 16-character name of the customer group to which the trunk group belongs.
	OPTIONS	see subfield	Options. This subfield consists of subfield OPTION.
	OPTION	FACTYPE and trunk type required	Option. This subfield specifies the options and associated subfields assigned to the trunk group. Enter FACTYPE and the trunk type required. ***Note:*** If OPTION is set to FACTYPE, subfields CCSA, TDMTT, FX, or ETS require datafill.
	CCSA	CCSA	Common Control Switching Arrangement. This subfield specifies the common control switching arrangement. Enter CCSA.
	TDMTT	TDMTT	Tandem Tie Trunk. This subfield specifies the tandem tie trunk. Enter TDMTT.

Datafilling table TRKGRP (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	FX	FX	Automatic Flexible Routing. This subfield specifies the automatic flexible routing. Enter FX.
	ETS	ETS	Electronic Tandem Switched Call. This subfield specifies the electronic tandem switched call. Enter ETS.

Datafill example for table TRKGRP

The following example shows sample datafill for table TRKGRP.

MAP display example for table TRKGRP

```
GRPKEY
                                GRPINFO
_____________________________________________________________
INMF
IBNTI 0 ELO NCRT MDCGRP1 0 0 5554111 ANSDISC  0 N N N N N
Y N 0 0 N N N $ (FACTYPE ETS) $
OGMF2
```

Translation verification tools

MDR Data in the AMA Stream does not use translation verification tools.

SERVORD

MDR Data in the AMA Stream does not use SERVORD.

Multipilot Directory Numbers on MLH Group

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS31 and up

Prerequisites

To operate, Multipilot Directory Numbers on MLH Group has the following prerequisites:

- BAS Generic, BAS00003

Description

Multipilot Directory Numbers on MLH Group provides the ability to assign unique directory numbers (DN) to some or all line equipment numbers (LEN) in a multiline hunt (MLH) group. Hunting can start at members of the hunt group other than the pilot DN. This feature applies to plain old telephone service (POTS) and MDC lines.

Operation

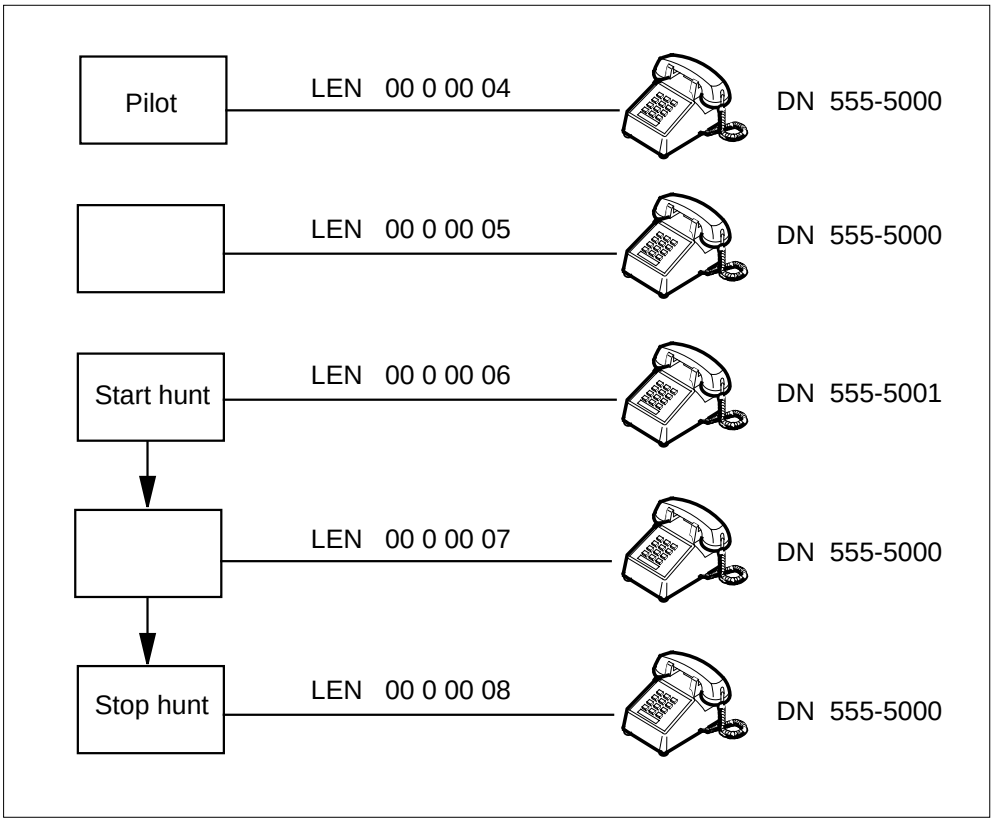
Prior to Multipilot Directory Numbers on MLH Group feature, an MLH group was made up of a pilot member with an associated DN. Additional members of the group were assigned unique LENs but were given the same DN as the pilot. The hunting pattern for MLH groups was sequential hunting. Hunting started at the pilot DN and continued through the group until an idle line was reached.

With the implementation of this feature, unique DNs can be assigned to some or all members of an MLH group. When a DN in the MLH hunt group is dialed, hunting starts at that DN and continues according to the hunt characteristics of that particular group.

The following figure displays a five-member MLH group composed of a pilot DN, three members with the same DN as the pilot, and one member with a unique DN. Sequential hunting is used. When DN 555-5001 is dialed, hunting starts at this DN and continues to the end of the hunt group.

Multipilot Directory Numbers on MLH Group (continued)

Multiple DNs on an MLH group (sequential hunting)

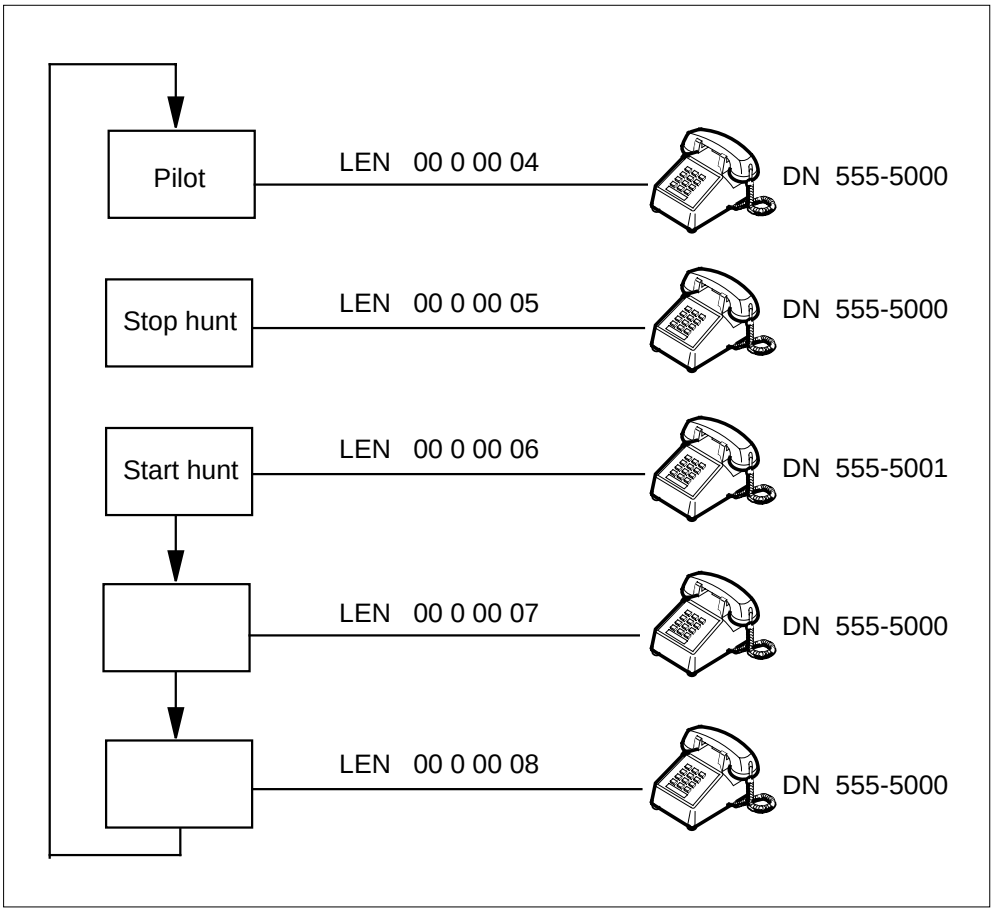


This feature also provides MLH groups the circular hunting capability. If an MLH group is assigned circular hunting, hunting starts at the DN dialed and continues through the hunt group until an idle member is found or until all members of the hunt group have been checked once. If no idle member is found, hunting stops just prior to the start-hunt member.

The following figure displays circular hunting of an MLH group as implemented by this feature. In this figure, DN 555-5001 is dialed to access the hunt group.

Multipilot Directory Numbers on MLH Group (continued)

Multiple DNs on an MLH group (circular hunting)



User interface

With this feature, commands QDN (query DN) and QLEN (query LEN) provide both DN and LEN information on hunt group members. A QDN command can now be performed on members when a unique DN is present. The QDN and QLEN commands display a DN field in this situation, and the “NON_UNIQUE" tag is no longer present, indicating that the DN is unique to that LEN.

The following figure shows an example of the QDN command performed on an MLH group pilot.

Multipilot Directory Numbers on MLH Group (continued)

Command QDN performed on an MLH group pilot number

```
CI:
>QDN 5550004
-------------------------------------------------------
DN:
5550004 (NON_UNIQUE)
TYPE: PILOT OF MLH HUNT GROUP
SNPA: 919  SIG: DP  LNATTIDX:   32
HUNT GROUP: 88     HUNT MEMBER:  0
LINE EQUIPMENT NUMBER:   HOST 00 0 00 03
LINE CLASS CODE:   1FR
LINE TREATMENT GROUP:   0
CARDCODE:  6X18AB   GND: N  PADGRP: STDLN  BNV: NL MNO: N
PM NODE NUMBER      :    26
PM TERMINAL NUMBER  :   4
OPTIONS:   NONE
GROUP OPTIONS:
RCVD
MEMBER INFO:
   1    HOST 00 0 00 06    5550005
_______________________________________________________
```

The following figure shows an example of the QDN command performed on an MLH group member.

Command QDN performed on an MLH group member number

```
CI:
>QDN 5550005
-------------------------------------------------------
DN:5550005
TYPE: MEMBER OF MLH HUNT GROUP
SNPA: 919  SIG: DP  LNATTIDX:   32
HUNT GROUP: 88     HUNT MEMBER:  1
LINE EQUIPMENT NUMBER:   HOST 00 0 00 06
LINE CLASS CODE:   1FR
LINE TREATMENT GROUP:   0
CARDCODE:  6X18AB   GND: N  PADGRP: STDLN  BNV: NL MNO: N
PM NODE NUMBER      :    26
PM TERMINAL NUMBER  :   12
OPTIONS:   NONE
PILOT DN:  5550004
GROUP OPTIONS:
RCVD
-------------------------------------------------------
```

Multipilot Directory Numbers on MLH Group (continued)

The new command, CHDN (change hunt DN) is introduced by this feature. This command allows the end user to change the DN associated with an MLH group member. The new DN must be either a blank DN in the office or the pilot DN. The end user cannot change the DN of the pilot of the hunt group. Refer to “Service orders" in this feature description for more information on command CHDN.

Translations table flow

Multipilot Directory Numbers on MLH Group does not affect translations table flow.

Limitations and restrictions

The following limitations and restrictions apply to Multipilot Directory Numbers on MLH Group:

- The DN originally assigned to the pilot member cannot be changed.
- This feature does not support Meridian business sets (MBS). If a DN must be assigned to an MBS, a directory number hunt (DNH) group should be established.

Interactions

All features currently available to MLH groups are supported by this feature. In addition, circular hunting (CIR) is implemented by this feature for MLH groups.

Activation/deactivation by the end user

Multipilot Directory Numbers on MLH Group requires no activation or deactivation by the end user.

Billing

The TERM NUMBER field of an originating Automatic Message Accounting (AMA) record shows the DN dialed, regardless of the member to which the call actually terminates.

When the TRMBOPT option is added to the hunt group, Field ORIG NUMBER of the terminating billing record is filled according to the terminating refinements PILOT, RCVD, and TERM. If PILOT, the DN associated with the pilot is recorded in the billing record. If RCVD, the DN dialed is recorded in the billing record. If TERM, the terminating DN is recorded in the billing record.

> ***Note:*** For TERM billing, if no unique DN is assigned to the terminating line, the pilot's DN is recorded in the AMA record.

Station Message Detail Recording

Multipilot Directory Numbers on MLH Group does not affect Station Message Detail Recording.

Datafilling office parameters

Multipilot Directory Numbers on MLH Group does not affect office parameters.

Datafill sequence

Multipilot Directory Numbers on MLH Group does not affect datafill.

Translation verification tools

Multipilot Directory Numbers on MLH Group does not use translation verification tools.

SERVORD

This feature adds the new Service Order System (SERVORD) command CHDN. The DN associated with a member of an MLH group can be changed with the CHDN command. Following is a list of alternatives offered by this command:

- The end user can change a nonunique DN (one that is the same as the pilot's) to a unique DN, (that is, give a member an unassigned DN).
- The end user can change a unique DN back to that of the pilot's DN.
- The end user can change a unique DN to a different DN, as long as that DN is an unassigned DN.

SERVORD prompts

The following table shows the SERVORD prompts used to change Multipilot Directory Numbers on MLH Group.

SERVORD prompts for Multipilot Directory Numbers on MLH Group (Sheet 1 of 2)

Prompt	Valid input	Explanation
LEN_OR_LTID	LEN	Specifies the LEN of a member of an MLH group. Enter the LEN.

Multipilot Directory Numbers on MLH Group (continued)

SERVORD prompts for Multipilot Directory Numbers on MLH Group (Sheet 2 of 2)

Prompt	Valid input	Explanation
NEW_DN	7-digit DN	Specifies the new DN. Enter the 7-digit DN.
INTERCEPT_NAME	BLDN, UNDN, ANCT, OPCT, AINT, CANN	Specifies the valid intercept (no prompt if changing from nonunique pilot to unique DN). Enter the intercept name.

Note: Tables HUNTGRP (Hunt Group) and HUNTMEM (Hunt Group Member) are automatically datafilled when Multipilot Directory Numbers on MLH Group is assigned using SERVORD.

SERVORD example for changing the unique DN of an MLH group member

The following SERVORD example shows how the unique DN of an MLH group member is changed to another unique DN or to the pilot member's DN using the CHDN command.

SERVORD example for changing a unique DN to another unique DN or to the pilot's DN in prompt mode

```
> CHDN
SONUMBER:  NOW  90 06 11 AM
>
LEN_OR_LTID
> 0 0 0 6
NEW_DN
> 5445000
INTERCEPT_NAME
> BLDN
OPTION:
> $
COMMAND AS ENTERED:
CHDN NOW 90 06 11 AM HOST 0 0 0 6 5445000
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
> Y
```

Multipilot Directory Numbers on MLH Group (continued)

SERVORD example for changing a unique DN to another unique DN or to the pilot's DN in no-prompt mode

```
> CHDN $ 0 0 0 6 5445000 BLDN $ Y
```

SERVORD example for changing the pilot DN to a unique DN of an MLH group member

The following SERVORD example shows how the DN of an MLH group member is changed from the pilot DN to a unique DN using the CHDN command.

SERVORD example for changing a member's DN from the pilot DN or another unique DN in prompt mode

```
> CHDN
SONUMBER:  NOW  90 06 11 AM
>
LEN_OR_LTID
> 0 0 0 6
NEW_DN
> 54450001
OPTION:
> $
COMMAND AS ENTERED:
CHDN NOW 90 06 11 AM HOST 0 0 0 6 5445001
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
> Y
```

SERVORD example for changing a member's DN to the pilot DN or to another unique DN in no-prompt mode

```
> CHDN $ 0 0 0 6 5445001  $ Y
```

SERVORD example for changing back to the pilot DN of an MLH group member

The following SERVORD example shows how an MLH group member is assigned back to the pilot DN using the CHDN command.

Multipilot Directory Numbers on MLH Group (end)

SERVORD example for Multipilot Directory Numbers on MLH Group in prompt mode

```
> CHDN
SONUMBER: NOW 90 06 11 AM
>
LEN_OR_LTID:
> 0 0 0 9
NEW_DN:
> 5555001
INTERCEPT_NAME:
> BLDN
COMMAND AS ENTERED:
CHDN NOW 90 06 11 AM HOST 0 0 0 9 5555000
> $
```

SERVORD example for Multipilot Directory Numbers on MLH Group in no-prompt mode

```
>CHDN $ 0 0 0 9 5555001 BLDN $
```

Outgoing Restriction Control

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS28 and up

Prerequisites

To operate, Outgoing Restriction Control has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC MSAC, MDC00002

Description

The Outgoing Restriction Control feature allows predesignated attendant consoles (AC), Meridian business sets (MBS), and 2500 sets to place various origination restrictions on stations within their customer group. The origination restrictions can be placed on specific directory numbers (DN) or on established groups of DNs called station origination restriction (SOR) groups. ACs, 2500 sets, and MBSs which apply the restrictions are called controllers.

Prior to this feature, the only method of placing origination restrictions on MDC stations was to use code restrictions levels (CRL) in the network class of service (NCOS) table.

Operation

Depending on the type of equipment being used, the controller assigning a restriction level selects an idle loop key (or goes off-hook) and then presses the Station Origination Restriction (SOR) feature key (or dials an access code). Next the asterisk (*) is pressed, and the station number to be controlled is entered (or the group number if the restriction is to be applied to an entire customer group).

The asterisk key is then pressed again, followed by the number key associated with the desired level of restriction. The end user then presses the SOR key again to complete the sequence. Finally, to complete the operation, the controller presses the release key (or goes on-hook).

Outgoing Restriction Control (continued)

The SOR levels are listed in the following table.

Level	Description
0	All calls permitted by the network class of service (NCOS) are allowed.
1	Only intragroup calls and calls specified on an exception list are allowed.
2	Only intragroup calls are allowed.
3	Only calls specified on an exception list are allowed.
4	No calls are allowed.
Note: All restriction levels can dial 911 for emergency services.	

SOR groups: SOR group have the following attributes:

- There can be up to 64 SOR groups for each customer group.
- An SOR group can have any type of set in the group.
- Every MDC station that is to have SOR activated against it must be in an SOR group.

Exception lists: An exception list consists of a maximum of five 1- to 11-digit numbers that subscribers can dial with a restriction level of 1 or 3. One exception list can be created for each customer group. Exception lists are created through datafill in Table SORLIST. Exception lists are only used when a 1 or 3 restriction level is applied to a line. An example exception list might include 0 (to call the AC) and 911 (for emergency calls).

Conflicting SOR levels: If a station has a group restriction level that is different from its individual restriction level, the more restrictive of the two restriction levels applies to calls on that line.

For example, station A has an individual restriction level of 1 and is in a restriction group that is set to level 3 on weekends. On the weekends, station A would only be permitted to make calls specified in the exception list for that restriction group. The more restrictive level, 3, has overridden the restriction level of 1. The capability to make intragroup calls has been overridden.

Conflicting SOR and NCOS levels: If the NCOS of a line is more restrictive than the SOR level of that line, the NCOS restrictions take precedence. This

feature does not permit any calls that are not allowed based on the NCOS of that line.

For example, suppose a line has a restriction level of 1; however, the NCOS of that line only allows intragroup calls. Only intragroup calls will be permitted over that line. Calls to the numbers in the exception list are not allowed. The NCOS has overridden the restriction level.

Treatments: Treatments are applied to calls that cannot be completed. This feature introduces the station origination restriction error (SORE) treatment. The treatments that relate to this feature are listed in the following table.

Treatment	Reason for treatment
FNAL	Feature not allowed. A line without option SORC has attempted to activate the MDC origination restriction feature.
NOSR	No software resource. The call fails due to the lack of software resources. Software resources for this feature includes feature control blocks, feature data blocks, and feature translation blocks.
SORE	Station origination restriction error. A line with option SOR has attempted to originate a disallowed call.
NACK	Feature activation negative acknowledgment. Activation of an origination restriction from an attendant console (AC) or a controller station to a station has failed.

Treatments are datafilled in Table TMTCNTL.

Translations table flow

Outgoing Restriction Control does not affect translations table flow.

Limitations and restrictions

The following limitations and restrictions apply to Outgoing Restriction Control:

- An AC cannot be a member of an SOR group.
- The SOR feature must be assigned to a dedicated Incoming Call Identification (ICI) key for the AC activation of the feature.
- The SOR feature cannot be assigned to the Wild Card key.

Outgoing Restriction Control (continued)

- Because an asterisk (*) is required to activate the SOR feature, this feature cannot be activated from MDC 500 sets.
- For 2500 sets and MBSs, the SOR feature is activated by code access only.
- The SOR feature cannot be accessed by an MBS feature key.
- The SOR feature is incompatible with multiple appearance directory number (MADN) groups and all types of hunt groups except directory number hunt (DNH) groups. This restriction is required because SOR can be activated by the DN. In the case of MADN groups and non-DNH hunt groups, the DN is not unique.
- The SOR feature can be activated by a line with DNH.
- The SOR feature is not compatible with ACD groups.
- The SOR feature is not compatible with overlap outpulsing.

Interactions

The following paragraphs describe the interactions between Outgoing Restriction Control and other functionalities.

The Outgoing Restriction Control feature interacts with the following features:

- Authorization codes. Lines that are restricted by the SOR feature cannot override the restriction by dialing an authorization code.
- Automatic Call Distribution (ACD). This feature should not be used with the SOR feature.
- Call forward Validation (CFWVAL). The SOR feature does not affect CFWVAL. If option CFWVAL is present in Table IBNXLA and a line attempts to activate call forwarding, the call will ring at the line to which the call was forwarded. The call is allowed to complete regardless of the originating line's SOR restrictions.
- Code Restriction Levels. This feature should not be used in conjunction with code restriction levels. If used, the more restrictive of the two restrictions will apply to the call.

Activation/deactivation by the end user

After initial datafill is set up, the Outgoing Restriction Control feature can be activated by either an AC or an end user at a 2500 set or business set.

To assign or change an origination restriction of an individual station or a restriction group from an AC, the attendant completes the following steps.

Outgoing Restriction Control (continued)

Activation/deactivation of Outgoing Restriction Control by the end user

At the MAP:

1 Press an idle Loop key.

Response:

The lamp states are as follows:

- The Release (RLS) lamp turns off.
- The Source (SRC) lamp turns on.
- The Destination (DEST) lamp is off.

2 Press the Station Origination Restriction (SOR) feature key.

Response:

The following actions occur:

- The SOR feature lamp winks.
- The following message appears on the console display:

  `SOR:  INPUT`

3 Dial one of the following:

- a station number (extension)
- an asterisk (*) and a restriction group number (1 to 64)

4 Dial an asterisk (*).

5 Dial the desired restriction level (0, 1, 2, 3, or 4).

6 Press the SOR key.

Response:

The SOR feature lamp turns on indicating that SOR has been activated.

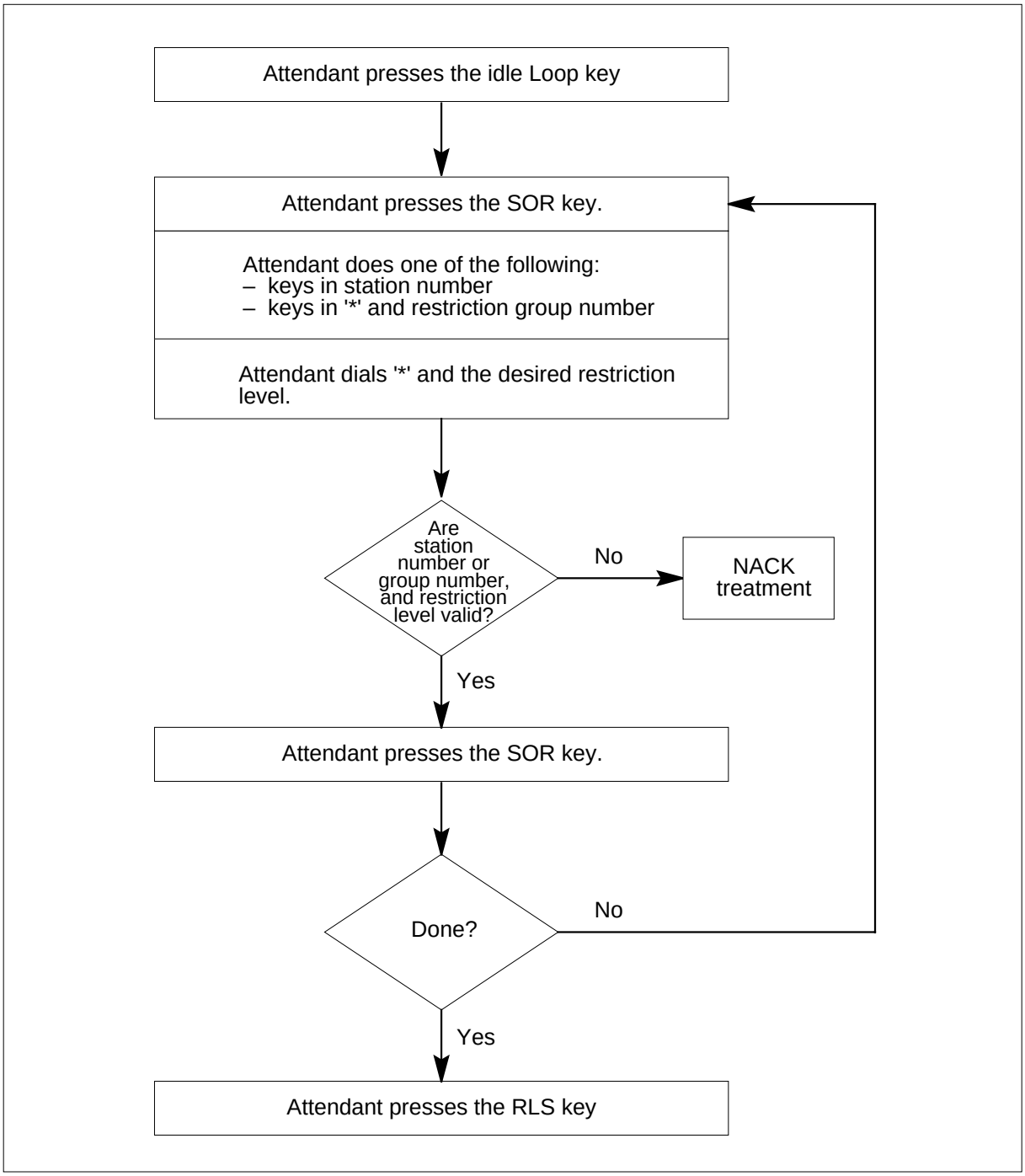
7 Perform one of the following:

- Activate SOR for another station or restriction group by repeating the process starting with step 2.
- Press the RLS key to exit the SOR feature.

The following figure illustrates the flow of SOR feature activation by an attendant.

Outgoing Restriction Control (continued)

Feature flow of the attendant activation of SOR



Outgoing Restriction Control (continued)

To assign or change an origination restriction to an individual station or restriction group from a 2500 set or business set, the subscriber completes the following steps.

Activation/deactivation of Outgoing Restriction Control by the end user

At the MAP:

1 Go off-hook.

2 Dial the Station Origination Restriction (SOR) feature activation code.

Response:

Special dial tone (SDT) is returned.

3 Dial one of the following:

- a station number (extension)
- an asterisk (*) and a restriction group number (1 to 64)

4 Dial an asterisk (*).

5 Dial the desired restriction level (0, 1, 2, 3, or 4).

6 If desired, to indicate the end of dialing, dial an octothorpe (#).

Response:

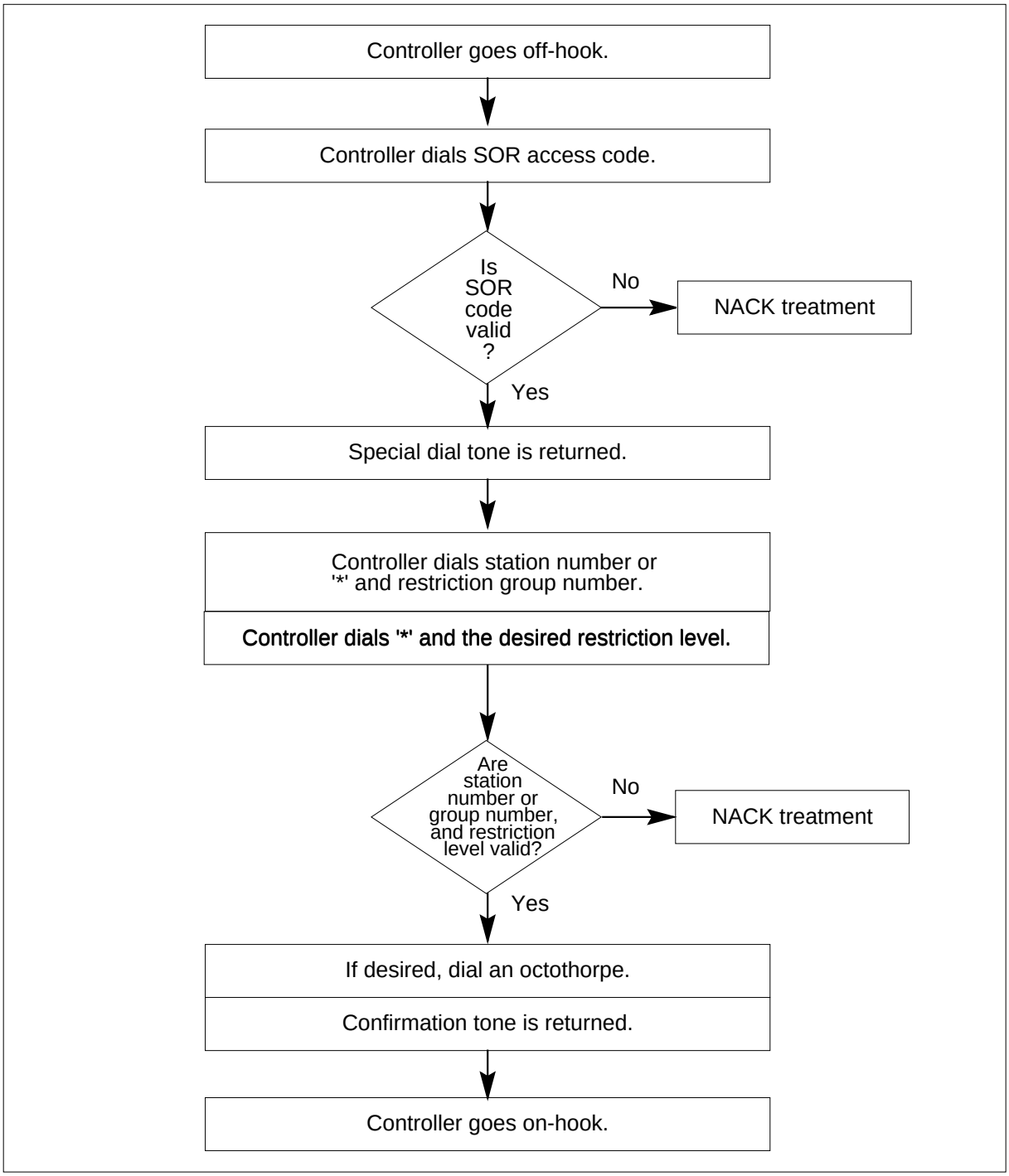
Confirmation tone is returned.

7 To exit this feature, go on-hook.

The following figure illustrates the flow of SOR feature activation by a controller.

Outgoing Restriction Control (continued)

Feature flow of the controller activation of SOR



Billing

Outgoing Restriction Control does not affect billing.

Station Message Detail Recording

Outgoing Restriction Control does not affect Station Message Detail Recording.

Datafilling office parameters

The following table shows the office parameters used by Outgoing Restriction Control. For more information about office parameters, refer to *Office Parameters Reference Manual*.

Office parameters used by Outgoing Restriction Control

Table name	Parameter name	Explanation and action
OFCENG	NO_OF_FTR_XLA_BLKS	Specifies the quantity of Feature Translation Data Extension Blocks required. Enter a value from 0 to 32000. The default value is 50.

Datafill sequence

The following table lists the tables that require datafill to implement Outgoing Restriction Control. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Outgoing Restriction Control

Table	Purpose of table
CUSTSTN	Customer Group Station Option Table
FNMAP	Attendant Console Functional Key Table
IBNFEAT (Note)	IBN Line Feature Table
IBNLINES (Note)	IBN Line Assignment Table
IBNXLA	IBN Translation Table
KSETFEAT (Note)	Business Set and Data-Unit Feature Table
KSETLINE (Note)	Business Set and Data-Unit Line Assignment Table
SORLIST	Station Origination Restrictions List Table
Note: This table is datafilled through SERVORD; therefore, no datafill procedure is provided.	

Outgoing Restriction Control (continued)

The SOR feature should be applied against lines using SERVORD instead of through table control. The following table lists the various tasks that can be performed to datafill this feature in the manners possible.

Datafilling table CUSTSTN

Table CUSTSTN (Customer Group Station Option) contains the station options assigned to each of the customer groups. Datafill Table CUSTSTN and Table FNMAP when ACs act as an SOR controller. Refer to “Datafill procedure for Table FNMAP."

Datafill Tables CUSTSTN, IBNXLA, and IBNLINES (datafill Table IBNLINES through SERVORD) for a 2500 set acting as a controller station. Refer to “Datafill procedure for Table IBNXLA" and “Service order."

Datafill Tables CUSTSTN, IBNXLA, and KSETLINE (datafill Table KSETLINE through SERVORD) when establishing a business set as a controller station. Refer to “Datafill procedure for Table IBNXLA" and “Service order."

The following table shows the datafill specific to Outgoing Restriction Control for table CUSTSTN. Only those fields that apply directly to Outgoing Restriction Control 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		alphanumeric	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		SOR	Option Name. This field specifies the station origination restrictions option. Enter SOR.
OPTION		SOR	Option. This field specifies the station origination restrictions option. Enter SOR.

Datafill example for table CUSTSTN

The following example shows sample datafill for table CUSTSTN.

MAP display example for table CUSTSTN

```
CUSTNAME        OPTNAME                    OPTION
_______________________________________________________
MDCGRP1            SOR                        SOR $
```

Datafilling table FNMAP

Table FNMAP (AC Functional Key) assigns features to keys on specific consoles. Datafill Table FNMAP and Table CUSTSTN when ACs act as an SOR controller. Refer to “Datafill procedure for Table CUSTSTN."

The following table shows the datafill specific to Outgoing Restriction Control for table FNMAP. Only those fields that apply directly to Outgoing Restriction Control are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table FNMAP

Field	Subfield or refinement	Entry	Explanation and action
KEY		see subfields	Key. This field consists of subfields CONSCLLI and ACKEY.
	CONSCLLI	console common language identifier	Console Common Language Location Identifier. This subfield specifies the code that is assigned to the attendant console (AC) in Table CLLI. Enter the console common language location identifier.
	ACKEY	2 to 43	AC Key and Lamp Number. This subfield specifies the number of the AC key and lamp that are assigned to the Station Origination Restrictions Controller feature. Enter a value from 2 to 43.
RESULT		see subfields	Result. This field is comprised of subfields KEYSEL and SPFN.
	KEYSEL	SPECL	Key Selector. This subfield specifies the special key selector. Enter SPECL.
	SPFN	SORC	Special Function. This subfield specifies the special function code for the Station Origination Restrictions Controller feature. Enter SORC.

Outgoing Restriction Control (continued)

Datafill example for table FNMAP

The following example shows sample datafill for table FNMAP.

MAP display example for table FNMAP

```
      KEY                                  RESULT
 ------------------------------------------------------------------
 IBNCON1  5          SPECL                    SORC
```

Datafilling table IBNXLA

Table IBNXLA (IBN Translation) contains the data for the digit translation of calls from an Integrated Business Network (IBN) station, an AC, or an incoming or an incoming side of a two-way IBN trunk group.

Datafill Tables IBNXLA, CUSTSTN, and IBNLINES (datafill Table IBNLINES through SERVORD) for a 2500 set acting as a controller station. Refer to “Datafill procedure for Table CUSTSTN" and “Service order."

Datafill Tables IBNXLA, CUSTSTN, and KSETLINE (datafill Table KSETLINE through SERVORD), when establishing a business set as a controller station. Refer to “Datafill procedure for Table CUSTSTN" and “Service order."

The following table shows the datafill specific to Outgoing Restriction Control for table IBNXLA. Only those fields that apply directly to Outgoing Restriction Control 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		see subfields	Key. This field consists of subfields XLANAME and DGLIDX.
	XLANAME	translator name	Translator Name. This subfield specifies the name that is assigned to the translator. Enter the 1- to 8-character name.
	DGLIDX	digital	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 consists of subfield TRSEL.

Datafilling table IBNXLA (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	TRSEL	FEAT	Translations Selector. This subfield specifies the translations selector to be used. Enter FEAT.
If TRSEL is set to FEAT, subfields ACR, SMDR, VCDR, and FEATURE require datafill.			
	ACR	Y or N	Account Code Entry. This subfield specifies whether an account code is required. Enter Y or N.
	SMDR	Y or N	Station Message Detail Recording. This subfield specifies whether SMDR is required. Enter Y or N.
	VCDR	Y or N	Variable Call Detail Recording. This subfield specifies whether VCDR is required. Enter Y or N.
	FEATURE	SOR	Feature. This subfield specifies the feature assigned to a line. Enter SOR.

Datafill example for table IBNXLA

The following example shows sample datafill for table IBNXLA.

MAP display example for table IBNXLA

```
        KEY
                                                RESULT
 ____________________________________________________________________
 NTIXLA     123                    FEAT N Y N SOR
```

Datafilling table SORLIST

Table SORLIST (Station Origination Restrictions List) contains the exception list of calls allowed by SOR levels 1 and 3. Datafill Table SORLIST when identifying the maximum number of SOR groups for each customer group.

The following table shows the datafill specific to Outgoing Restriction Control for table SORLIST. Only those fields that apply directly to Outgoing

Outgoing Restriction Control (continued)

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

Datafilling table SORLIST

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		alphanumeric	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.
NUMGRPS		1 to 64	Number of Groups. This field specifies the number of SOR groups desired for the customer group. Enter a value from 1 to 64.

The following table identifies the required datafill for creating an exception list for a customer group.

Datafilling table SORLIST

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		alphanumeric	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.
NUMGRPS		1 to 64	Number of Groups. This field specifies the number of SOR groups desired for the customer group. Enter a value from 1 to 64.
EXCPTLST		directory numbers or $	Exception List. This field specifies the numbers that are called despite the application of a station origination restriction level of 1 or 3 against the line. Enter up to five 1- to 11-digit directory numbers. If no exception list is desired, enter $.

Datafill example for table SORLIST

The following example shows sample datafill for table SORLIST.

MAP display example for table SORLIST

```
CUSTNAME        NUMGRPS    EXCPTLST
_____________________________________________________________
 IBNTST               62 (0) (911) (6211234)  $
```

Translation verification tools

Outgoing Restriction Control does not use translation verification tools.

SERVORD

The SOR feature should be applied against lines using SERVORD instead of through table control.

The commands that can assign or remove options SOR or SORC to and from MDC lines, primary MBS DN keys, and secondary MBS DN keys are as follows:

- NEW (establish service)
- ADO (add option)
- DEO (delete option)
- OUT (remove service)

The following table lists and describes the options introduced by this feature.

Option	Description
SOR	Station origination restriction Allows for the creation of SOR groups. Creating the SOR groups allows the controller to apply a restriction level to a group of directory numbers (DN) in the same customer group.
SORC	Station origination restriction controller Allows the station or attendant console (AC) with this option to apply the Outgoing Restriction Control feature to another DN or a group of DNs in the same customer group.

The following options are incompatible with options SOR and SORC:

- ACD
- BNN

Outgoing Restriction Control (continued)

- DLH
- MDN
- MLH.

SERVORD limitations and restrictions

Outgoing Restriction Control has no SERVORD limitations and restrictions.

SERVORD prompts

The following table shows the SERVORD prompts used to assign Outgoing Restriction Control to an MDC station and business set.

SERVORD prompts for Outgoing Restriction Control

Prompt	Valid input	Explanation
DN_OR_LEN	7-digit DN or LEN	Specifies the 7-digit DN or LEN of the line to be changed. Enter the DN or LEN.
OPTKEY	1 to 69	Indicates the key on an MBS to which an option is assigned. Enter a value from 1 to 69.
OPTION	SOR, SORC	Indicates the name of the option. Enter SOR or SORC.
SORGRP	1 to 64	Specifies the SOR group to which a directory number (DN) belongs. Enter a value from 1 to 64.
Note: Table IBNLINES (for 2500 sets) or KSETLINE for (MBSs) is automatically datafilled when option SORC is added to or deleted from a line using SERVORD. Table IBNFEAT (for 2500) or KSETFEAT (for MBSs) is automatically datafilled when option SOR is added to or deleted from a line using SERVORD.		

SERVORD example for adding Outgoing Restriction Control

The following SERVORD example shows how Outgoing Restriction Control is added to an MDC station using the ADO command.

Option SORC cannot be assigned to an AC using SERVORD. This option must be datafilled in Table FNMAP.

Options SOR and SORC are compatible with the following line class codes:

- IBN
- M2009
- M2018

Outgoing Restriction Control (continued)

- M2112
- M2317
- M3000
- PSET.

Options SOR and SORC can be added to or deleted from an MDC station using the ADO and DEO commands, respectively. The options can be assigned to a new line using the NEW command. The following examples are supplied:

- adding option SOR to an MDC station
- adding option SOR to a business set
- adding option SORC to an MDC station
- adding option SORC to a business set
- deleting option SORC from an MDC station
- deleting option SORC from a business set.

The following SERVORD example shows how to add option SOR to the 6211000 DN. This DN is in the SOR group 1.

SERVORD example for adding Outgoing Restriction Control (option SOR) to an MDC station in prompt mode

```
SO:
> ADO
SONUMBER:  NOW 88   5   3 AM
> $
DN_OR_LEN:
> 6211000
OPTION:
> SOR
SORGRP:
> 1
OPTION:
> $
```

SERVORD example for adding Outgoing Restriction Control (option SOR) to an MDC station in no-prompt mode

```
> ADO $ 6211000 SOR 1 $ (CR)
```

Outgoing Restriction Control (continued)

The controller station can activate Outgoing Restriction Control for the 6211000 DN in either of the following manners:

- It can restrict the origination of calls specifically for the 6211000 DN.
- It can restrict the origination for all the DNs that are in the SOR group 1. This would include the 6211000 DN.

The following SERVORD example shows how to add option SOR to key number 5 of the 6211003 DN of an MBS. This DN is in the SOR group 2.

SERVORD example for adding Outgoing Restriction Control (option SOR) to a business set in prompt mode

```
SO:
> ADO
SONUMBER: NOW 88 5 3AM
> $
DN_OR_LEN:
> 6211003
OPTKEY:
> 5
OPTION:
> SOR
SORGRP:
> 2
OPTKEY:
> $
```

SERVORD example for adding Outgoing Restriction Control (option SOR) to a business set in no-prompt mode

```
> ADO $ 6211000 5 SOR 2 $
```

The controller station can activate the Outgoing Restriction Control feature for the 6211003 DN in either of the following manners:

- It can restrict the origination of calls specifically for the 6211003 DN.
- It can restrict the origination for all the DNs that are in the SOR group 2. This would include the 6211003 DN.

The following SERVORD example shows how to add option SORC to the 6211001 DN. This allows the 6211001 DN to be a controller station. As a controller station, 6211001 can apply Outgoing Restriction Control to another DN in the customer group.

Outgoing Restriction Control (continued)

SERVORD example for adding Outgoing Restriction Control (option SORC) to an MDC station in prompt mode

```
SO:
> ADO
SONUMBER: NOW 88 5 3AM
> $
DN_OR_LEN:
> 6211001
OPTION:
> SORC
OPTION:
> $
```

SERVORD example for adding Outgoing Restriction Control (option SORC) to an MDC station in no-prompt mode

```
> ADO $ 6211001 SORC $
```

The following SERVORD example shows how to add option SORC to the 6211002 DN. This allows the 6211002 DN to be a controller. As a controller, 6211002 can apply Outgoing Restriction Control to another DN in the customer group.

SERVORD example for adding Outgoing Restriction Control (option SORC) to a business set in prompt mode

```
SO:
> ADO
SONUMBER: NOW 88 5 3AM
> $
DN_OR_LEN:
> 6211002
OPTKEY:
> 5
OPTION:
> SORC
OPTKEY:
> $
```

Outgoing Restriction Control (continued)

SERVORD example for adding Outgoing Restriction Control (option SORC) to a business set in no-prompt mode

```
>ADO $ 6211002 5 SORC $
```

The following SERVORD example shows how to delete option SORC from the 6211001 DN. The 6211001 DN can no longer apply Outgoing Restriction Control to the customer group.

SERVORD example for deleting Outgoing Restriction Control (option SORC) from an MDC station in prompt mode

```
SO:
> DEO
SONUMBER: NOW 88 5 3AM
> $
DN_OR_LEN:
> 6211001
OPTION:
> SORC
OPTION:
> $
```

SERVORD example for deleting Outgoing Restriction Control (option SORC) from an MDC station in no-prompt mode

```
> DEO $ 6211001 SORC $
```

The following SERVORD example shows how to delete option SORC from the 6211002 DN. The 6211002 DN can no longer apply Outgoing Restriction Control to another DN in the customer group.

Outgoing Restriction Control (end)

SERVORD example for deleting Outgoing Restriction Control (option SORC) from a business set in prompt mode

```
SO:
> DEO
SONUMBER: NOW 88 5 3AM
> $
DN_OR_LEN:
> 6211002
OPTKEY:
> 5
OPTION:
> SORC
OPTKEY:
> $
```

SERVORD example for deleting Outgoing Restriction Control (option SORC) from a business set in no-prompt mode

```
> DEO $ 6211002 5 SORC $
```

Pending Order File (POF) Enhancements

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS32 and up

Prerequisites

To operate, Pending Order File (POF) Enhancements has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The Customer Data Change (CDC) system allows end users to create and change data associated with their customer groups. This system frees end users from having to contact the operating company every time they need to change data.

The pending order subsystem provides the means for storing and manipulating orders, such as service orders (SO) and data modification orders (DMO), previously created by the end user. These orders are classified as pending orders, each with its own unique pending order file identifier (POFID).

This feature enhances the CDC and pending order file (POF) functionality in three ways. First, it allows CDC users to access the pending order subsystem with the PENDING (pending) command using the Service Order System (SERVORD). Second, it partitions the POF by CDC owner so CDC users can access their pending service order file (PSOF) partition. Third, it provides operating companies the option of automatically activating PSOFs created by CDC users.

Operation

Pending Order File (POF) Enhancements allows CDC users, who have the ability to create a PSOF in the POF, access to the pending order subsystem. To create a PSOF, CDC users must have the CDCSETUP (customer data change setup) command in their logon profiles or the PENDING command included in the command set for CDC users. In addition, Table CDCLOGON (Customer Data Change Logon) must have field POF set to Y.

Pending Order File (POF) Enhancements (continued)

This feature allows CDC users to access the POF based on their owner identification. This type of partition prevents any security violations. For CDC users to access their PSOFs, all pertinent tables must be datafilled for a CDC user. (A PSOF belongs to a CDC user when the owner name of the PSOF matches the owner name of the CDC user in Table OWNER [Owner].) Refer to *Customer Data Change (CDC) Operating Company Guide* for detailed information on how to set up data ownership for a CDC user.

If the CI (command interpreter) command CDCSETUP is included in a CDC user's login profile, the CDC user is allowed to use the PENDING command.

Executing pending service order files

An AUTOEXEC process on the DMS switch allows operating companies to activate PSOFs automatically when pending SOs are due. AUTOEXEC activates at 3:30 every morning and executes a file named AUTO_SCHED in the store file device (SFDEV). This file activates the pending SOs that are due.

The following figure shows the pending order command file for SO_POF.

Pending order command file for SO_POF

```
>SERVORD
>PENDING $
>ACT NP PSOF_DUE
>Y
>QUIT
```

Note: The parameter NP has been modified to suppress the prompts in the ACTIVATE command, but at the same time retain the pending SO in the POF when the ACTIVATE command fails.

The following figure shows the pending order command file for AUTO_SCHED.

Pending order command file for AUTO_SCHED

```
>LISTSF ALL
>READ
SO_POF
```

Note: LISTSF ALL makes files on SFDEV available to be read.

Pending Order File (POF) Enhancements (continued)

The pending order subsystem also stores DMOs and bulk DMOs (externally created files) created by the operating companies in the POF mode of table editor (TE). Non-operating company CDC users cannot create POFs of type data order file (DOF) because the CREATE (create) subcommand is not available.

Translations table flow

Pending Order File (POF) Enhancements does not affect translations table flow.

Limitations and restrictions

The following limitations and restrictions apply to Pending Order File (POF) Enhancements:

- This feature limits a CDC user to pending SOs belonging to that CDC user.
- The pending order subsystem storage is initially set to 4 Kwords of protected storage. This allows approximately 2 Kwords for pending orders. Only technical support personnel can increase the amount of memory. Since the available POF space is limited, CDC users may be restricted in the number of pending SOs allowed in the PSOF at one time.
- This feature validates all pending SOs twice. Validation works as follows:
  - Before a pending SO is placed in the POF, the entered command is validated through a check process. If the order passes the check, it is placed in the PSOF of the POF. If it does not pass, the CDC user is informed that the check has failed, and the PSOF is not created. However, the CDC user has the option of overriding the check and placing the order in the POF.
  - When a pending SO is activated, it goes through the same process checks as before. If the command is revalidated, the pending SO goes into effect and is deleted from the PSOF. If the command is not revalidated, the pending SO is retained in the PSOF, and the CDC user can reexamine, edit, and reactivate the failed order or resubmit it to the PSOF.

Interactions

Pending Order File (POF) Enhancements has no functionality interactions.

Pending Order File (POF) Enhancements (continued)

Activation/deactivation by the end user

With Pending Order File (POF) Enhancements, end users can access pending SOs through SERVORD with the following commands:

- PENDING provides access to pending SOs
- DISPLAY displays pending SOs
- ACTIVATE activates pending SOs
- DELETE deletes pending SOs

Once in the pending order subsystem, the CDC user can do the following:

- manually activate the PSOF that belongs to the CDC user by entering PSOF, POFID, or DUE (These may be entered singly or collectively.)
- display the contents of the PSOF that belongs to the CDC user by entering PSOF, POFID, or DUE (These may be entered singly or collectively.)
- delete the PSOF that belongs to the CDC user by entering PSOF, POFID, or DUE (These may be entered singly or collectively.)

For a complete explanation of activating and deactivating the POF system, refer to *SERVORD Reference Manual*.

Billing

Pending Order File (POF) Enhancements does not affect billing.

Station Message Detail Recording

Pending Order File (POF) Enhancements does not affect Station Message Detail Recording.

Datafilling office parameters

Pending Order File (POF) Enhancements does not affect office parameters.

Pending Order File (POF) Enhancements (continued)

Datafill sequence

The following table lists the tables that require datafill to implement Pending Order File (POF) Enhancements. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Pending Order File (POF) Enhancements

Table	Purpose of table
OWNER	Owner. This table contains the list of owner names that can be assigned to customer groups.
CDCLOGON	Customer Data Change Logon. This table lists the logon user name that is associated with each owner name.
NPENDING	Number Pending. This table associates the logon identification of the POF user with the owner name.

Datafilling table OWNER

Table OWNER (Owner) contains the list of owner names that can be assigned to customer groups. The data for each owner specifies if other owners are allowed to look at the data that belongs to the owner. Owner names must be defined here to be used in Table CDCLOGON.

The following table shows the datafill specific to Pending Order File (POF) Enhancements for table OWNER. Only those fields that apply directly to Pending Order File (POF) Enhancements are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table OWNER

Field	Subfield or refinement	Entry	Explanation and action
OWNER		alphanumeric	Owner. This field defines the owner name. Enter the 1- to 8-character alphanumeric owner name.
PUBLIC		Y	Public. This field defines whether other owners are allowed to look at data owned by the owner datafilled in field OWNER. This field must be set to Y in order for Table NPENDING (Number Pending) to be accessed by the owner. Enter Y.

Datafill example for table OWNER

The following example shows sample datafill for table OWNER. This example illustrates how a tuple in Table OWNER might appear on the MAP (maintenance and administration position).

MAP display example for table OWNER

```
OWNER                                PUBLIC
_____________________________________________________________
GRP1                                    Y
```

Datafilling table CDCLOGON

Table CDCLOGON (Customer Data Change Logon) lists the logon user name that is associated with each owner name. Each user name is assigned a class, either TELCO, GENERAL, OBSERVER, or NONUSER.

The following table shows the datafill specific to Pending Order File (POF) Enhancements for table CDCLOGON. Only those fields that apply directly to Pending Order File (POF) Enhancements are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table CDCLOGON (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
USERNAME		character	User Name. This field defines the user name assigned to a customer group. Enter the alphabetic user name.
OWNER		alphanumeric	Owner. This field defines the name assigned to the owner. This is the name datafilled in field OWNER in Table OWNER. Enter the 1- to 8-character alphanumeric name.

Pending Order File (POF) Enhancements (continued)

Datafilling table CDCLOGON (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
CLASS		character	Class. This field defines the class assigned to the user name. Enter one of the following classes: • Enter TELCO to specify that the CDC user can change and view any data. • Enter GENERAL to specify that the CDC user can change and view his or her own data and can view all public data. • Enter OBSERVER to specify that the CDC user cannot change any data but can view his or her own data and all public data. • Enter NONUSER to specify that the CDC user cannot change or view any data.
POF		Y	Pending Order File. This field activates or deactivates POF for the CDC user defined. Enter Y to activate POF.

Datafill example for table CDCLOGON

The following example shows sample datafill for table CDCLOGON.

MAP display example for table CDCLOGON

```
USERNAME        OWNER       CLASS                POF
_______________________________________________________
     MDC         GRP1       GENERAL          Y
```

Datafilling table NPENDING

Table NPENDING (Number Pending) associates the logon identification of the POF user with the owner name. This enforces the ownership of data and records in the system. Field OWNER is introduced by this feature.

The following table shows the datafill specific to Pending Order File (POF) Enhancements for table NPENDING. Only those fields that apply directly to

Pending Order File (POF) Enhancements are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table NPENDING

Field	Subfield or refinement	Entry	Explanation and action
POFID		alphanumeric	Pending Order File Identification. This field defines the POFID code. Enter a 1- to 16-character POFID.
OWNER		character	Owner. This field contains the owner identification of the pending SO in the PSOF and matches the POFID to the owner defined in Table CDCLOGON. Enter the owner name.

Datafill example for table NPENDING

The following example shows sample datafill for table NPENDING.

MAP display example for table NPENDING

```
POFID        OWNER        DUE        PROMPT     LOGMESST
_____________________________________________________________
GRP1AB201        GRP1         93 JUL 1 2300       0
Y
```

Translation verification tools

Pending Order File (POF) Enhancements does not use translation verification tools.

SERVORD

All SERVORD commands for CDC users are unaffected by this feature. The PENDING command is provided to a CDC user if field POF is set to Y in Table CDCLOGON. If field POF is not set to Y in Table CDCLOGON, the PENDING command is not provided. The PENDING command is available after the SO prompt.

SERVORD limitations and restrictions

Pending Order File (POF) Enhancements has no SERVORD limitations and restrictions.

Pending Order File (POF) Enhancements (continued)

SERVORD prompts

The following table shows the SERVORD prompts used to change Pending Order File (POF) Enhancements to, a destination.

SERVORD prompts for Pending Order File (POF) Enhancements

Prompt	Valid input	Explanation
SONUMBER	SO number	Specifies the unique number of the SO to be entered. Accept the date and time shown by pressing the Enter key, or enter a valid SO number.
DUE	Year, month, day	Specifies the date the SO is due to be activated. Enter the year, month, and day in the format yymmdd.
TIME	AM, PM	Specifies the meridiem in which the SO is due to be activated. Enter AM or PM.

SERVORD example for adding Pending Order File (POF) Enhancements

The following SERVORD example shows how Pending Order File (POF) Enhancements is used to create a pending SO for CDC users with POF capabilities.

SERVORD example for Pending Order File (POF) Enhancements in prompt mode

```
SO:
> ADO
SONUMBER:  NOW 90 1 2 AM
> AB12345
DUE:
> 90 12 24
TIME:
> PM
DN_OR_LEN:
> 0 0 1 2
OPTKEY:
> 4
OPTION:
> 3WC
OPTKEY:
> $
```

Pending Order File (POF) Enhancements (end)

SERVORD example for Pending Order File (POF) Enhancements in no-prompt mode

```
> ADO AB12345 90 12 24 PM HOST 0 0 1 2 4 3WC $
```

Preset Conference (Large)

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS29 and up

Prerequisites

To operate, Preset Conference (Large) has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC Standard, MDC00003

Description

The Preset Conference (Large) feature extends the maximum number of conferees in a preset conference. Prior to this feature, the maximum number of conferees was 25.

A ten-digit directory number (DN) is assigned to each preset conference. The maximum number of preset conferences is 64. Associated with each preset conference DN is a list of 1 to 50 preset conferee DNs. The originator dials a specific preset conference DN which activates the switching office (SO) to automatically invoke a simultaneous ringing of a maximum of 50 preselected conference members.

Operation

Establishing a preset conference

Once the originator dials the DN, a check is made to verify whether the originator is allowed to set up the preset conference. Option CONF6C must be datafilled in Table CUSTENG (Customer Group Engineering). If the call is valid, the originator hears ringing when the conference has been initiated. If the call is invalid, the originator is routed to a no service circuit (NOSC) treatment.

When the MDC customer group has used its maximum number of six-port conference bridges (refer to “6-Port Conference Circuit Use Control"), the originator is routed to NOSC, unless the preset conference is datafilled as an emergency type conference. In an emergency type conference, the number of circuits used are incremented, but are not checked against the customer group's maximum number allowed.

Preset Conference (Large) (continued)

If there are enough six-port conference bridges available for the preset conference, the conference bridges are seized from a pool of idle bridges. The originator will hear audible ringing after the preset conference is initiated.

Depending upon how Table PRECONF is datafilled, the conference can be set up to start as soon as the first conferee answers or to have a delayed start.

If the conference starts as soon as the first conferee answers, it will cause the audible ringing to the originator to stop and the conference to begin. Attempts to complete calls to unanswered conferees continue while the conference is in conversation. As the other conferees answer, they are added into the conference call after 400 milliseconds of conference entrance tone (440 Hz + 480 Hz) has been applied. The conference entrance tone lets the conferees already in the conference know that another conferee has been added.

If a conference has a delayed start, the first conferee that answers receives a tone or announcement (depending upon datafill) which is attached to the conference bridge. The tone or announcement continues as an audible signal to answering conferees until 2 seconds after all conferees have answered. The originator can force the conference by pressing the octothorpe (#) key.

An MDC station not permitted to originate a conference is required to dial 0 (zero) to access the attendant. The attendant may then dial the DN and transfer the call back to the station once ringing is heard.

A preset conference can also be originated by a direct inward dial (DID) agent (plain old telephone service [POTS] line or incoming trunk), depending on the datafill of the Preset Conference (Large) feature. Since there can be more than one originator for a conference, when an attempt is made to originate a conference that has been initiated, the second originator is routed to a busy tone. The originator's DN is part of the preset conference.

Associated with each conferee DN are a time-out interval and an alternate DN, which is optional. Within an adjustable interval of 15 to 60 seconds after the call is initiated, automatic retrial is attempted on conferees that have not answered. If a call to a primary address fails to complete within two retrials and an alternate address is provided for the conferee, two attempts will be made on the alternate DN. Retrials are not attempted on an address in a secondary conference bridge.

Secondary conferencing (ability to interconnect with remote conference bridges) is permitted with the Preset Conference (Large) feature. When a conference is activated and one of the conferee addresses requires a secondary bridge, the conferee address is processed in a normal manner and directed toward the switching office (SO) serving the secondary bridge equipment. All

Preset Conference (Large) (continued)

conferee DNs that are secondary conferences are identified in Table PRECONF with the CLASS field having a value of C.

Adding and releasing additional conferees

Once the preset conference is established, the add-on controller can add or release additional conferees. The add-on controller is determined by datafilling field ADDON in Table PRECONF. The only time the add-on controller can use the Release feature is when attempting to add on a conferee, and the conferee does not answer or does not wish to participate in the conference call. The controller cannot release a conferee already established in the preset conference call. The maximum number of conferees in a preset conference call cannot exceed 50 which will include the originator, the preset conferees, and the add-on conferees. The add-on controller must be an MDC line and a member of the preset conference customer group. An attendant console (AC) is not allowed to add on conferees. Below are procedures describing how a 500/2500 set or a business set, in a preset conference, can add or release conferees, which are optional features. For a 500/2500 set, the Conference (CONF) and Release (RLS) feature access codes must be datafilled in Table IBNXLA. A business set must have CONF and RLS keys assigned to it from datafill in Table KSETFEAT.

Addition of a conferee from a 500/2500 set

To add a conferee into a preset conference from a 500/2500 set, perform the following steps:

- From an established preset conference, hook flash or press the Link key.
- Dial the CONF feature access code and receive second dial tone.
- Dial the DN and wait for answer.
- Once in conversation, hook flash or press the Link key.
- Dial the CONF feature access code. At this point, the conferee and originator are part of the preset conference.

Release of a potential conferee from a 500/2500 set

To release a potential conferee in a preset conference from a 500/2500 set, perform the following steps:

- From an established preset conference, hook flash or press the Link key.
- Dial the CONF feature access code and receive second dial tone.
- Dial the DN of the potential conferee and wait for answer.
- Once in conversation or if the conferee does not answer, hook flash or press the Link key.

- Dial the RLS feature access code and receive second dial tone.
- Dial the CONF feature access code to reenter the conference or dial another DN to try another conferee.

Addition of a conferee from a business set

To add a conferee into a preset conference from a business set, perform the following steps:

- From an established preset conference, press the CONF key and receive second dial tone.
- Dial the DN and wait for answer.
- Once in conversation, press the CONF key. At this time, the conferee is placed in the conference and the originator will receive dial tone.
- The originator can do two functions at this point: return to the conference by pressing the RLS key and the DN key, or dial the DN of another conferee.

Release of a potential conferee from a business set

To release a potential conferee in a preset conference from a business set, perform the following steps:

- From an established preset conference, press the CONF key and receive second dial tone.
- Dial the DN and wait for answer.
- Once in conversation or if the conferee does not answer, press the RLS key.
- Press the flashing DN key and return to the conference.

Terminating a preset conference

When all conferees have gone on-hook, all connections are automatically released, equipment is returned to idle, and individual bridges are released from multiple bridge connections. If a conferee disconnects from a preset conference, a 400 millisecond burst of conference exit tone (350 Hz + 440 Hz) is provided to members still active in the preset conference call. The conference exit tone lets the conferees know that a conferee has disconnected.

Datafill can allow for the originator to be the controlling conferee for the conference. So when the originator goes on-hook, the conference has ended even though the other conferees are still on the conference bridge. If the originator does not control the conference, a check is made for the presence of DMS stations or trunks with disconnect supervision when a conferee disconnects. If there is no station or trunk with disconnect supervision still in the preset conference controlling the call, the conference will end.

Preset Conference (Large) (continued)

Conference port allocation

The following table shows the number of six-port conference circuits needed to support a particular number of conferees. Six-port conference circuits are allocated for a customer group in Table CUSTENG, option CONF6C.

Six-port conference circuits

# of six-port conference circuits	Number of conferees
1	6
2	10
4	18
6	26
7	30
8	34
12	50
Note: Formula: 4(# of six-port conference circuits) + 2 = number of conferees	

If the conference is unable to attach sufficient conference circuits, callers will be routed to a NOSC treatment.

Translations table flow

Preset Conference (Large) does not affect translations table flow.

Limitations and restrictions

The following limitations and restrictions apply to Preset Conference (Large):

- The Preset Conference (Large) feature is for MDC stations only.
- To dial a DN to set up a conference call, the originator must be designated as a DID agent.
- On origination to a conferee, the expensive route warning tone and off-hook queuing features are deactivated.
- When a conferee is connected to a preset conference, the following features are disabled for the duration of the call:
  - — Call Waiting
  - — Three-Way calling
  - — Busy Verification of lines and trunks

— Flash Recall

— Call Pickup

— Executive Busy Override

- An MDC station that is not permitted to establish a conference call must dial the attendant to be added to a conference.
- If the originator is a trunk, the trunk must be capable of returning disconnect supervision.
- Between 1 and 50 conferees can be associated with each preset conference DN.
- Conferees in a preset conference cannot use autodial to add a member into the conference.
- If a phone rings with a call from a preset conference, the Call Pickup feature cannot be used to answer it.
- 64 simultaneous preset conferences, each including 25 to 50 conferees, could cause a potential resource contention impact on the system.
- An AC is not allowed to add on conferees.

Interactions

The following paragraphs describe the interactions between Preset Conference (Large) and other functionalities.

- Conference. Two preset conferences cannot be conferenced together. If the originator is active in any conference, flashes, or presses a CONF key, then dials a preset conference DN, a busy treatment is given.
- Call Forwarding. The following features, if present, remain active for incoming preset conference calls:

  — Call Forwarding Busy

  — Call Forwarding Don't Answer

  — Call Forwarding Intragroup

  Note: If the primary address does not answer, call forwarding is attempted if it is activated.

Preset Conference (Large) (continued)

- Camp-On. While conferees are in a preset conference, the attendant is able to camp on to them.
- Preset Conference. If the preset conference call has been originated in the DMS switch, the following interactions apply:
  - — Station message detail recording (SMDR) may apply to one or more legs of the call. Each leg is a separate record with conference identification in the SMDR report.
  - — If the originator is attempting to originate an MDC preset conference from the second leg of a three-way call, the call will be routed to reorder tone.
  - — If the originator is active in a flexible station controlled conference, flashes to initiate add-on, and then dials an MDC preset conference DN, the conference is set up.

Activation/deactivation by the end user

Preset Conference (Large) requires no activation or deactivation by the end user.

Billing

Preset Conference (Large) does not affect billing.

Station Message Detail Recording

Preset Conference (Large) does not affect Station Message Detail Recording.

Datafilling office parameters

The following table shows the office parameters used by Preset Conference (Large). For more information about office parameters, refer to *Office Parameters Reference Manual*.

Office parameters used by Preset Conference (Large)

Table name	Parameter name	Explanation and action
OFCENG	NO_OF_FTR_CONTROL_BLKS	This parameter specifies the number of feature control blocks (FCB) required.
OFCENG	NO_OF_LARGE_FTR_DATA_BLKS	This parameter specifies the number of large feature data blocks (FDB) required.
OFCENG	NO_OF_MEDIUM_FTR_DATA_BLKS	This parameter specifies the number of medium FDBs required.

Datafill sequence

The following table lists the tables that require datafill to implement Preset Conference (Large). The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Preset Conference (Large)

Table	Purpose of table
CLLI	Common Language Location Identifier Table
DNROUTE	Directory Number Route Table
CUSTENG	Customer Group Engineering Table
PRECONF	Preset Conference Table
STN	Special Tone Table
IBNXLA	IBN Translation Table
KSETFEAT	Business Set and Data Unit Feature ***Note:*** This table is datafilled through SERVORD; therefore, no datafill procedure is provided.

Datafilling table CLLI

Table CLLI (Common Language Location Identifier) contains the preset conference tones.

The following table shows the datafill specific to Preset Conference (Large) for table CLLI. Only those fields that apply directly to Preset Conference (Large)

Preset Conference (Large) (continued)

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

Datafilling table CLLI

Field	Subfield or refinement	Entry	Explanation and action
CLLI		see explanation	Common Language Location Identifier. This field specifies the far end of each announcement, tone, or trunk group. Enter the characters to identify the far end of each tone.
ADMIN		see explanation	Administrative Trunk Group Number. This field specifies the administrative trunk group number. Enter a number from 0 to a number one less than the size of Table CLLI shown in Table DATASIZE.
TRKGRSIZ		0 to 2047	Trunk Group Size. This field specifies the maximum quantity of trunk members which are expected to be assigned in the trunk group. Enter a value from 0 to 2047.
ADMININF		see explanation	Administrative Information. This field specifies the recorded administration information. Enter a vector up to 32 characters.

Datafill example for table CLLI

The following example shows sample datafill for table CLLI. Table CLLI shows that preset conference tone PCNOR has been established.

MAP display example for table CLLI

```
CLLI        ADNUM       TRKGRSIZ            ADMININF
_____________________________________________________
PCNOR       234          32 PRESET_CONF_NORMAL_NOTIF
```

Datafilling table DNROUTE

Table DNROUTE (Directory Number Route) contains information for writable directory numbers in the switch. Table DNROUTE defines the DN that is assigned to the preset conference in Table PRECONF.

Note: Once Table PRECONF has been datafilled, Table DNROUTE will automatically be updated. It will assign the DN a customer group and a preset conference number corresponding to Table PRECONF.

Preset Conference (Large) (continued)

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

Datafilling table DNROUTE

Field	Subfield or refinement	Entry	Explanation and action
DNRESULT		see subfields	Directory Number Results. This field consists of subfields DNSEL, FEATURE, DEST, DIDORG, CUSTNAME, and SUBGRP. Only subfields DNSEL and FEATURE specifically apply to this feature.
	DN_SEL	D	Directory Number Selector. This subfield specifies the type of DN selector. Enter D.
	FEATURE	BLDN	Feature. This subfield specifies the name of the feature. Enter BLDN.

Datafill example for table DNROUTE

The following example shows sample datafill for table DNROUTE.

MAP display example for table DNROUTE

```
AREACODE   OFCCODE   STNCODE                          DNRESULT
_____________________________________________________________
613          621      1249                         D BLDN
```

Datafilling table CUSTENG

Table CUSTENG (Customer Group Engineering) contains the values for the engineering parameters and options for each customer group.

The following table shows the datafill specific to Preset Conference (Large) for table CUSTENG. Only those fields that apply directly to Preset Conference

Preset Conference (Large) (continued)

(Large) 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		see subfield	Options. This field consists of subfield OPTION.
	OPTION	CONF6C	Option. This subfield specifies the name of the option. Enter CONF6C for six port conference circuits.
	MAXCNF6C	0 to 2047	Maximum Six Port Conference Circuits. This subfield specifies the maximum number of six port conference circuits that can be allocated to a customer group. Enter a value from 0 to 2047.

Datafill example for table CUSTENG

The following example shows sample datafill for table CUSTENG with option CONF6C.

MAP display example for table CUSTENG

```
CUSTNAME   NONCOS   NOIBNTMT   CONSOLES   DOMAIN   GROUPID
                                                    OPTIONS
_____________________________________________________________
MDCGRP1    100       40         Y       FAMILY     MDC 1234
                                                 (CONF6C  15)
$
```

Datafilling table PRECONF

Table PRECONF (Preset Conference Table) contains information on IBN preset conferences in the office. For an IBN switching unit, the only conference type (CONFTYPE) allowed is IBN.

This feature changes Table PRECONF to accept up to 50 conferees for each preset conference.

Datafill Table PRECONF as shown in the following procedure to define the information on all the preset conferences in the office.

The following table shows the datafill specific to Preset Conference (Large) for table PRECONF. Only those fields that apply directly to Preset Conference

Preset Conference (Large) (continued)

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

Datafilling table PRECONF (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
PCNFKEY		see subfields	Preset Conference Key. This fields consists of subfields PRECONF and CONFEREE.
	PRECONF	0 to 63	Preset Conference Identifier. This subfield specifies the number assigned to the preset conference by the operating company. Enter a value from 0 to 63.
	CONFEREE	0 to 49	Conferee Identifier. This subfield specifies the number assigned to the conferee by the operating company. Conferee 0, which is used to hold the conference directory number (DN), must be entered first. Enter a value from 0 to 49.
CONFADDR		see explanation	Conference Address. This field specifies the conference address. Enter the 1- to 18- digit conference address where the preset conference is for IBN.
PCNFVAR		see subfields	Preset Conference Variables. This field consists of subfields CLASS, ALTADDR, TIMEOUT, CONFTYPE, CUSTGRP, NCOS, ORIGCONT, ADDON, DIDORIG, EMERG, ATDREQ, IMMSTART, and NOTICLLI.
	CLASS	P, A, C, or D	Conference Class. This subfield specifies the conference class. Enter P, A, C, or D.
	ALTADDR	see explanation	Alternate Address. This subfield specifies the alternate address. Enter a 1- to 18-digit DN if CLASS equals A.
	TIMEOUT	see explanation	Variable Timeout. This subfield specifies the variable timeout. Enter a value from 15 to 60. If CLASS equals C or D, leave this field blank.
	CONFTYPE	IBN	Conference Type. This subfield specifies the conference type. Enter IBN.

Preset Conference (Large) (continued)

Datafilling table PRECONF (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	CUSTGRP	customer group	Customer group. This subfield specifies the name of the customer group as assigned in Table CUSTREAD. Enter the name of the customer group.
	NCOS	0 to 511	Network Class of Service. This subfield specifies the NCOS number assigned to the preset conference. Enter a value from 0 to 511.
	ORIGCOUNT	Y or N	Originator Control. This subfield specifies whether the preset conference is to be taken down when the originator of the conference goes on hook. Enter Y or N.
	ADDON	Y or N	Conference Add Ons. This subfield specifies whether the originator of this IBN preset conference is allowed to add additional conferees to the conference, once the conference is established. Enter Y or N.
	DIDORIG	Y or N	DID Origination Allowed. This subfield specifies whether a direct inward dial (DID) party is allowed to originate a preset conference. Enter Y or N.
	EMERG	Y or N	Emergency Conference. This subfield specifies whether a preset conference is allowed to originate even if the customer group is already using its maximum number of 6 port circuits. Enter Y or N.
	ATDREQ	Y or N	Audio Tone Detector Required. This subfield specifies whether the call does not continue when ATD is not available. Enter Y or N.
	IMMSTART	Y or N	Immediate Start. This subfield specifies whether the preset conference starts as soon as the first conferee answers. Enter Y or N.
	NOTICLLI	PCNOR	Standard Preset Conference Notification. This subfield specifies the standard preset conference notification. Enter PCNOR for the standard notification tone or any announcement common language location identifier (CLLI) entered in Table ANNS.

Datafill example for table PRECONF

The following example shows sample datafill for table PRECONF. Table PRECONF sets up a preset conference using the DN established in Table DNROUTE.

MAP display example for table PRECONF

```
PCNFKEY     CONFADDR                PCNFVAR
_____________________________________________________________
0  0            6136211249
        D   IBN     IBNTST 0 Y Y Y N N N PCNOR
```

Datafilling table STN

Table STN (Special Tone) contains the physical location and the maximum number of connections that can be made to each tone. If IMMSTART in Table PRECONF is set to Y (yes), do not datafill Table STN; go on to datafill Table IBNXLA.

Datafill Table STN as shown in the following procedure to define the preset conference normal notification tone.

The following table shows the datafill specific to Preset Conference (Large) for table STN. Only those fields that apply directly to Preset Conference (Large) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table STN (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
SK		see subfields	Special Tone Key. This field consists of subfields TONE and MEMBER.
	TONE	tone	Tone. This subfield specifies the pseudo fixed code assigned to the tone trunk circuit in the CLLI table. Enter the tone.
	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 to which this trunk circuit is located. Enter MTM for maintenance trunk module or STM for service trunk module.

Preset Conference (Large) (continued)

Datafilling table STN (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
TMNO		0 to 255	Trunk Module Number. This field specifies the number assigned to the MTM or STM on which the tone trunk circuit is located. 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 tone trunk circuit is assigned. Enter a value from 0 to 29.
CARDCODE		card code	Card Code. This field specifies the product engineering code (PEC) of the tone trunk circuit. Enter the card code.
MAXCONN		1 to 255	Maximum Connections. This field specifies the maximum number of simultaneous connections which are allowed to be made 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 if switching unit is local or local/toll. Enter 0 if switching unit is Military Systems, or if not required.

Datafill example for table STN

The following example shows sample datafill for table STN. Table STN defines the preset conference normal notification tone that is established in Tables CLLI and PRECONF.

MAP display 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) contains and stores the data for the digit translation of calls from an IBN station, an AC, or an incoming or an incoming side of a two-way IBN trunk group.

Preset Conference (Large) (continued)

Datafilling 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 is set to Y, Table IBNXLA must be datafilled as shown in the following procedure.

The following table shows the datafill specific to Preset Conference (Large) for table IBNXLA. Only those fields that apply directly to Preset Conference (Large) 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		see subfields	Key. This field consists of subfields XLANAME and DSLIDX.
	XLANAME	translator name	Translator Name. This subfield specifies the 1- to 8-character alphanumeric name that is assigned to the translator. Enter the translator name.
	DGLIDX	digital	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 consists of subfields TRSEL, ACR, SMDR, VCDR, and FEATURE.
	TRSEL	FEAT	Translation Selector. This subfield specifies the translation selector. Enter FEAT.
If TRSEL is set to FEAT, subfields ACR, SMDR, VCDR, and FEATURE require datafill.			
	ACR	Y or N	Account Code Entry. This subfield specifies whether an account code entry is required for all calls to the special feature access code. Enter Y or N.
	SMDR	Y or N	Station Message Detail Recording. This subfield specifies whether all calls from a customer group station or attendant console (AC) to any station in the block of station numbers are recorded. Enter Y or N.

Preset Conference (Large) (end)

Datafilling table IBNXLA (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	VCDR	Y or N	Variable Call Detail Record. This subfield specifies whether variable call detail record is activated. Enter Y or N.
	FEATURE	CONF	Feature. This subfield specifies the Station Controlled Conference feature. Enter CONF.

Datafill example for table IBNXLA

The following example shows sample datafill for table IBNXLA. Datafill in Table IBNXLA is optional depending on whether a preset conference member with a 500/2500 set is allowed to add or release conferees. The example below represents how to set up key access codes for the Conference and Release features.

MAP display example for table IBNXLA

```
        KEY                         RESULT
_____________________________________________________
CXT3            99                  FEAT N Y N CONF
```

Translation verification tools

Preset Conference (Large) does not use translation verification tools.

SERVORD

Preset Conference (Large) does not use SERVORD.

Series Completion

Functionality code

MDC00009

Release applicability

TL03 and up

Series completion was introduced in BCS31.

Prerequisites

To operate, Series completion requires the BAS Generic functional group.

Description

Series completion is a line option functionality that redirects calls from a busy directory number (DN) to another designated DN in the same office. The Series completion method allows a user-defined hunting scheme to be implemented for a given group of lines. This functionality applies to POTS and Meridian Digital Centrex (MDC) lines.

Operation

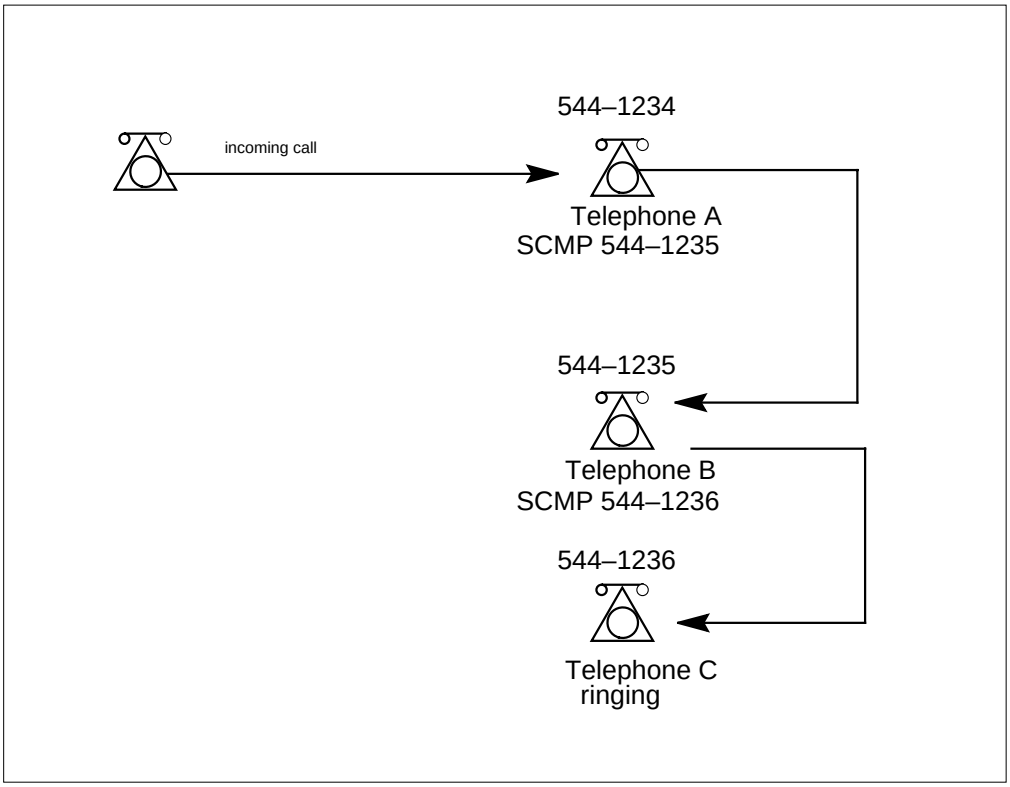
Series completion is similar to Call Forward Busy (CFB) and hunt groups. This functionality implements the SCMP line option. If SCMP is assigned to a line, incoming calls to that line are directed to another specified DN if the DN with SCMP is in the busy state. The DN that the incoming call is directed to is specified as a parameter of the SCMP line option. This DN must be seven or ten digits and belong to another line in the same office.

Redirecting calls does not require translations. The SCMP line option does not affect idle DNs.

Groups of lines can be linked by the SCMP option to form a connection that functions similarly to a hunt group. The following figure displays the similarity between Series completion and hunt groups.

Series Completion (continued)

Sequential series completion list



The figure displays an example of a sequential Series completion list using three telephones. When telephone A receives a call, telephone A is busy. The call is redirected to telephone B, which is also busy. The call then continues to telephone C, which is idle. Therefore, the call terminates to telephone C. If telephone C had been busy, the originator of the call would have been given line busy treatment.

A group of lines linked together by Series completion has the same functionality as a hunt group, but there is an important difference. Hunt groups only have two basic hunting algorithms: sequential and circular. Linking lines by Series completion allows other hunting algorithms to be implemented as well.

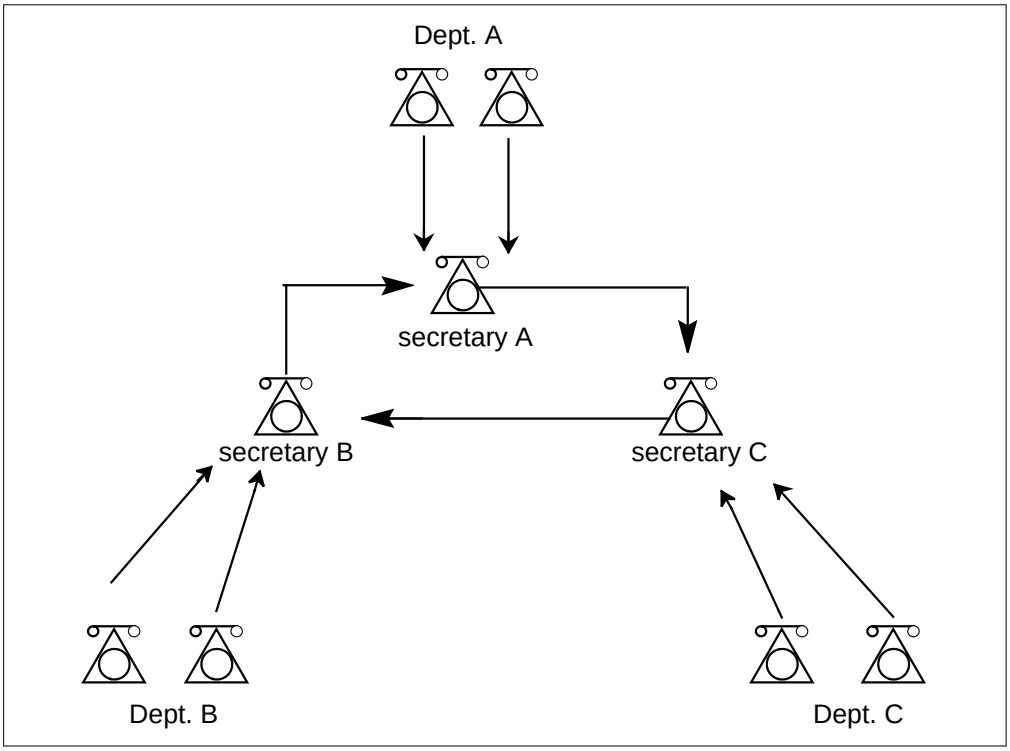
Series completion is also similar to CFB. A group of lines linked together by CFB cannot be forwarded through more than five lines. A group of lines linked together by Series completion can be redirected up to 16 times.

The following figure displays a hunting algorithm that is difficult to implement using hunt groups. All the telephones in the figure have the SCMP line option. The arrows indicate which telephones SCMP will redirect calls to.

Series Completion (continued)

In this example, any call to a busy line in department A, B, or C is redirected to that department's secretarial line. If the secretarial line is also busy, an attempt is made to find an idle line among the other secretarial lines. Series completion does not attempt to redirect a call more than once to the same line. Therefore, a circular Series completion list will not result in an infinite loop. In this example, a call will be forwarded three times since there are no additional lines to redirect a call after the third attempt.

Variation of secretarial hunt algorithm



Translations table flow

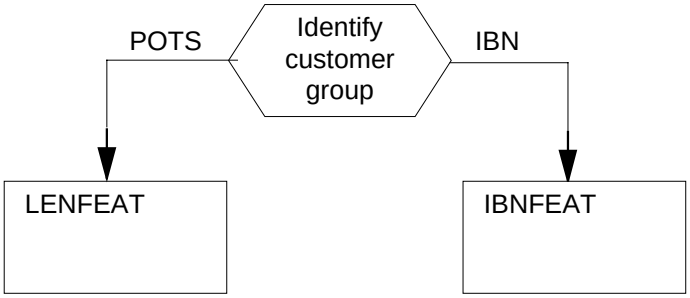
The Series completion translations tables are described in the following list:

- Table LENFEAT lists the features assigned to each datafilled POTS line.
- Table IBNFEAT lists the features assigned to each datafilled IBN line.

The Series completion translation process is shown in the flowchart that follows.

Series Completion (continued)

Table flow for Series completion



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

Datafill example for Series completion

Datafill table	Example data
LENFEAT	HOST 00 0 00 15 S SCMP SCMP 5441235
IBNFEAT	HOST 00 0 06 15 SCMP SCMP 5441235

Limitations and restrictions

The following limitations and restrictions apply to Series completion:

- line option SCMP is incompatible with hunt group members
- line option SCMP is incompatible with the following line options:
  - — 3WCPUB, ACB, ACD, AR, ATC, BNN, CBE, CBI, CBU, CDC, CDE, CDI, CDT, CDU, CFB, CFBL, CFD, CFDA, CFGDA, CFDVT, CFGD, CFI, CFMDN, CFR, CFS, CIR, CNAMD, CNDB, COT, CTW, CWO, CWR, DCBI, DBCX, DCPK, DCPU, DCPX, DDN, DIN, DLH, DND, DNH, DRCW, DRING, DTM, EBO, EBX, EHLD, EMW, ESL, EWAL, FGA, FNT, FRO, FRS, GIC, GND, HOT, IECFB, INT, LDTPSAP, LINEPSAP, LOD, LOR, MAN, MDN, MDNAME, MEMDISP, MLAMP, MLH, MPB, MPH, MREL, MRF, MTR, MWT, NAME, NSDN, OFR, OFS, ONI, OUTWT, PILOT, PRH, PRL, PRK, RAG, RCHD, RCVD, SC3, SCA, SCF, SCRJ, SDN, SEC, SL, SLU, SMDI, SUPPRESS, SVLP, TBO, TERM, TFO, TRMBOPT, UCD, and UCDDSD.

  Note 1: The last DN in a Series completion list may have any of these options, since the last DN does not have the SCMP option assigned to it.

  Note 2: See the description of functionality Series completions enhancements for BCS32. The BCS32 functionality makes SCMP compatible with many other options.

- A maximum of 32 767 lines may be assigned the SCMP option for a given office.
- You may link as many lines as desired per SCMP, to form a Series completion list. An incoming call is redirected until one of the following occurs:
  - — An idle line is encountered.
  - — A line is encountered that does not have SCMP.

Series Completion (continued)

— The call has been redirected 16 times.

— The call tries to terminate to a DN within the Series completion list that it has already tried to terminate to.

- No DN may terminate to an INWATS hunt group. Series completion to other hunt groups is allowed.
- A non-INWATS DN may not terminate to an INWATS DN. However, an INWATS DN may terminate to a non-INWATS or another INWATS line. If a call to an INWATS line terminates to a non-INWATS DN, the call is billed and pegged as an INWATS overflow against the called line, even if the call is answered by the non-INWATS DN.
- Do not create loops between Series completion lists and hunt groups. For example, a Series completion list should not terminate to a hunt group whose line overflows to a DN in the Series completion list. Such a loop is not a problem if Call Forwarding (CF) forms one of the links of the loop. Only loops formed by use of SCMP and huntgroup line-overflows to a DN are a problem. These loops may cause some calls to trap during call processing.
- The target DN associated with SCMP must be a seven- or ten-digit DN of a working line that resides in the same office. This DN, specified with the SCMP option, is validated before the option is accepted by the system.
- The DN to which SCMP redirects calls is specified by the operating company. The subscriber cannot program the DN.

Interactions

The following paragraphs describe the interactions between Series completion and other functionalities.

Call Forwarding

If CF is active on a DN with SCMP line option, CF takes precedence over SCMP.

Call waiting

CWT may be assigned to any DN in a Series completion list. If the DN is busy, incoming calls search the Series completion list for an idle DN. If no idle DN is found, the call attempts a CWT termination to the original DN.

Note: Calls that terminate to a hunt group, a call forward activated line, or a MADN group do not activate call waiting on the called line, even if all the lines are busy.

INWATS

Series completion may be used to provide hunting among a group of individual INWATS lines. If BellCore AMA format (BAF) is used, INWATS billing records for calls made to an INWATS Series completion list will record the DN of the INWATS line that answered the call. In the same call configuration, if Northern Telecom AMA format (NTFMT) is used, the DN of the called line is recorded.

Unanswered INWATS calls are billed against the called line. Unanswered calls are pegged as a termination attempt and overflow against the INWATS line that was ringing. Busy line treatment overflows are pegged as a termination attempt and overflow against the called line.

Answered INWATS calls are pegged as an attempt and completion against the answered line.

Make set busy

If the Make set busy functionality is active on a line with SCMP, all calls to the line are redirected by Series completion. The Make set busy intragroup is also compatible with SCMP.

Random make busy

If the Random make busy functionality is active on a line with SCMP, all calls to that line are redirected by Series completion.

Stop hunt

If the Stop hunt functionality is active on a line with SCMP, no calls to the line are redirected. If the line is busy, the call is given line busy treatment.

Activation/deactivation by the end user

Series completion requires no activation or deactivation by the end user.

Billing

If Series completion directs a call to another line, billing is handled as if the call had terminated to the originally dialed DN. If the line terminated to is call forwarded, billing for the second leg of the call is recorded as usual. AMA billing is not altered by the use of Series completion.

> ***Note:*** The exception to this rule is INWATS lines. INWATS billing records list the DN of the line terminated to.

For more information on billing, refer to the Bellcore format AMA translations section of this document.

Series Completion (continued)

Datafilling office parameters

Series completion does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement Series completion. The tables are listed in the order in which they are to be datafilled.

> ***Note:*** These tables are datafilled through SERVORD; therefore, no datafill procedure or example is provided. Refer to “SERVORD" for an example of using SERVORD to datafill this table.

Datafill tables required for Series completion

Table	Purpose of table
LENFEAT	Line Features. This table lists the functionalities that are assigned to a specific line in table LENLINES.
IBNFEAT	IBN Line Features. This table defines the functionalities assigned to each MDC or RES line datafilled in table IBNLINES.

Translation verification tools

Series completion does not use translation verification tools.

SERVORD

SERVORD is used to assign SCMP to POTS and MDC lines with the SCMP line option. A tuple in table LENFEAT or table IBNFEAT is automatically updated when SCMP is assigned through SERVORD.

The SCMP line option requires a seven- or ten-digit DN. This is the DN calls are redirected to.

It is not necessary to take the line out of service in order to add or delete option SCMP. The option is active as soon as it is assigned to the line.

SERVORD limitations and restrictions

Series completion has no SERVORD limitations and restrictions.

SERVORD prompts

The following table shows the SERVORD prompts used to add Series completion to an existing line.

SERVORD prompts for Series completion

Prompt	Valid input	Explanation
OPTION	SCMP	Assigns SCMP to the line.
SCMP_DN	7- or 10- digit DN	Identifies the DN that calls are directed to. The DN must be a working line in the same office.

SERVORD example for adding Series completion to an existing line

The following SERVORD example shows how Series completion is added to an existing line using the ADO command.

SERVORD example for Series completion in prompt mode

```
>SERVORD
SO:
>ADO
SONUMBER: NOW 90 06 11 AM
> (CR)
DN_OR_LEN
> 5441234
OPTION:
> SCMP
SCMP_DN:
> 5441235
OPTION:
> $
COMMAND AS ENTERED
ADO NOW 90 06 11 AM 5441234 SCMP 5441235 $
ENTER Y TO CONFIRM, N TO REJECT or E TO EDIT
> Y
```

SERVORD example for Series completion in no-prompt mode

```
> ADO $ 5441234 SCMP 5441235 $ Y
```

Series Completions Enhancements

Functionality code

MDC00009

Release applicability

TL03 and up

Series Completions Enhancements was introduced in BCS32.

Prerequisites

To operate, Series Completions Enhancements requires the following functional groups:

- BAS Generic
- MDC MDC Pro

Description

The enhancement to the Series Completion functionality (line option SCMP) allows full compatibility with other DMS options and multiple assigned directory numbers (MADN).

Operation

Refer to the Operation section for the Series Completion functionality.

Translations table flow

Refer to the Translations table flow for the Series Completion functionality.

Limitations and restrictions

Series Completions Enhancements has no limitations or restrictions.

Interactions

The enhancements to the SCMP functionality affect SCMP interaction with several other functionalities. Most of these functionalities have merely become compatible with it, but the following functionalities have changed in the way they interact:

- Call waiting (CWT)
- Call Forward Busy (CFB)
- Electronic business set (EBS) lines

- Selective Call Rejection (SCRJ)
- Selective call acceptance (SCA)

Call waiting

In BCS31, if an incoming call went to a Series Completion list, whether sequential or looped, CWT was performed only on the originally called line if all the lines were busy. After BCS32, this is only true for looped Series Completion lists. In sequential Series Completion lists, CWT only applies to the last line in the list if all the lines are busy. Therefore, it is the last line in the sequential list that must have call waiting, if call waiting is desired. This change is made to more closely match how the 1AESS switch functions.

Call Forwarding Busy

The CFB option functions similarly when applied to Series Completion lists. Upon entering a Series Completion list (sequential or looped), the CFB option is ignored while an idle line is sought. If no idle line is found and the list is sequential, the call will be forwarded according to options present on the last line of the list. If no idle line is found and the list is looped, the call will be forwarded according to the options on the line originally called. CFB provides a Series Completion list with a call overflow mechanism similar to that of a directory number hunt group with the line overflow to a directory number (LOD) option.

Electronic business set lines

This functionality makes Series Completion compatible with EBS lines. It also allows a line in a series to complete to an automatic call distribution (ACD) group directory number (DN), uniform call distribution (UCD) group DN, or attendant console DN.

Series Completion is now compatible with the line options list below. Their functions are not changed by the presence of the SCMP line option:

- Anonymous Call Rejection (ACRJ)
- Automatic Call Back (ACB)
- Automatic Recall (AR)
- Automatic Line (AUL)
- Call Forwarding Busy external (CBE)
- Call Forwarding Busy internal (CBI)
- Call Forwarding Busy line (POTS) (CFBL)
- Call Forwarding Busy universal (CBU)
- Call Forwarding Don't Answer external deny (CDE)

Series Completions Enhancements (continued)

- Call Forwarding Don't Answer intra-group deny (CDI)
- Call Forwarding Don't Answer unrestricted (CDU)
- Call Forwarding Busy (MDC) (CFB)
- Call Forwarding Don't Answer (MDC) (CFD)
- Call Forwarding Don't Answer (POTS) (CFDA)
- Call Forwarding Don't Answer variable timing (CFDVT)
- Call Forwarding intra-group (CFI)
- Call Forwarding for secondary MADN member (CFMDN)
- Call Forwarding Remote Access (CFRA)
- Call Forwarding simultaneous/screening (CFS)
- Calling Name Delivery (CNAMD)
- Calling Number Delivery (CND)
- Calling Number Delivery Blocking (CNDB)
- Caller Originated Trace (COT)
- Call Park (PRK)
- Call Transfer Warning (CTW)
- Call waiting originating (CWO)
- Call waiting ringback (CWR)
- Custom disconnect treatment (CDT)
- Denied incoming (DIN)
- Dialable directory number non-AMA (DDN)
- Directed call pickup barge in (DCBI)
- Directed call pickup barge in exempt (DCBX)
- Directed call park (DCPK)
- Directed call pickup (DCPU)
- Directed call pickup exempt (DCPX)
- Distinctive Ringing/call waiting (DRCW)
- Distinctive ringing (DRING)
- Do not disturb (DND)
- Enhanced WATS access line (EWAL)
- Executive busy override originator (EBO)

Series Completions Enhancements (continued)

- Executive busy override exempted (EBX)
- Executive message waiting (EMW)
- Feature group A billing (FGA)
- Free number termination (FNT)
- Fire Reporting System, Origination (FRO)
- Fire reporting system (FRS)
- Group intercom (GIC)
- Ground start (GND)
- Hotel/Motel (HOT)
- Internal/external call forwarding busy (IECFB)
- Internal/external call forwarding don't answer (IECFD)
- Inhibit line busy (ILB)
- Inhibit make busy (IMB)
- MADN member name display (MDNNAME)
- MADN member display (MEMDISP)
- MADN lamp (MLAMP)
- MADN release (MREL)
- MADN ring forward (MRF)
- Make busy key (MBK)
- Manual service (MAN)
- Message waiting (MWT)
- MDN Multiple Appearance Directory Number (MADN)
- Name display (NAME)
- Operator number identification (ONI)
- OUTWATS (OUTWT)
- Privacy release (PRL)
- Ring again (RAG)
- RES call hold (RCHD)
- RES speed calling long list (SC3)
- Secondary directory number (teen service) (SDN)
- Security code (SEC)

Series Completions Enhancements (end)

- Selective call acceptance (SCA)
- Selective call forwarding (SCF)
- Selective call rejection (SCRJ)
- Single line variety package (SLVP)
- Subscriber line usage (SLU)
- Suppress Number/Name Display (SUPPRESS)
- Terminating billing option (TBO)
- Three-way calling with Public Announcement (3WCPUB)
- Time and charges (T & C)

Selective Call Rejection and Selective Call Acceptance

The SCR and SCA options function normally when assigned to lines in a Series Completion list. The exception is when a call reaches a line not directly, but through the process of searching the list for an open line. When this occurs and the call is rejected by the line with SCRJ or SCA, the call does not route to the treatment specified by the SCRJ or SCA option. Instead, the call continues to route through the Series Completion list as if the options were never encountered.

Activation/deactivation by the end user

Series Completions Enhancements requires no activation or deactivation by the end user.

Datafilling office parameters

Series Completions Enhancements does not affect office parameters.

Datafill sequence

Refer to Datafill sequence for the Series Completion functionality.

Translation verification tools

Series Completions Enhancements does not use translation verification tools.

SERVORD

Refer to SERVORD for the Series Completion functionality.

Service Analysis for IBN

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS15 and up

Prerequisites

To operate, Service Analysis for IBN requires BAS Generic, BAS00003.

Description

Service Analysis (SA) is a telephone monitoring system designed to appraise the quality of service provided by the operating company and its personnel.

The Service Analysis for IBN feature is intended as a supplement to the existing service analysis software, adding to and extending the type of calls to be analyzed for IBN.

Service Analysis for IBN allows the analyst to monitor the following types of calls:

- basic calls originating on IBN lines that terminate on lines or trunks in the office
- basic calls incoming on an IBN trunk that terminate on lines or trunks in the office
- calls made to the attendant console and attendant extended calls

In addition, Service Analysis for IBN supports the analysis of the following classifications of calls:

- direct distance dialing incoming traffic (DDDIN)—incoming traffic on intertoll trunk groups, excluding operator calls
- toll network service measurement plans (TNSMP)—incoming 1+ automatic number identification/operator number identification (ANI/ONI) traffic on speed calling and traffic operator position system (TOPS) trunks
- local network service measurement plans (LNSMP)—dialed calls originating in the local switch and terminating to another local number of official service, or DDD calls terminating outside the local dialing area
- direct dial overseas (DDO)—line and PBX, super-CAMA (SC), and TOPS trunk DDO calls

Service Analysis for IBN (continued)

- outward toll assistance (OUTASST)—TOPS trunk originations and line originations routed directly to TOPS operator
- remote centralized automatic message accounting (RCAMA)—call originations on RONI (RCAMA) trunks
- line selection (LINESEL)—selection of line origination based on
  - — class of service and line class code (LCC)
  - — office code (NXX)
  - — line module, line module site, and drawer number

Operation

Service analysis randomly monitors subscriber-dialed, operator-dialed, and operator-assisted calls to evaluate the service being provided by a particular office and the surrounding switching network. It detects such problems as misrouted calls (due to internal problems such as datafilling) or poor-quality voice connections (due to problems in transmission facilities).

Service analysis is initiated and carried out by a service analyst, who interacts with the DMS switch. The analyst controls the number and classifications of the calls to be analyzed. The analyst listens to the calls and notes the events in the calls as they occur.

The events of interest are machine-recognized events and analyst-keyed events. All subjective information pertaining to each call is contributed by the analyst, while nonsubjective data and cumulative timing is done automatically by the DMS switch.

User interface

Service analysis is performed from the SASelect level of the MAP (maintenance and administration position). The SASelect MAP level is accessed by entering the following command from the CI level:

```
>MAPCI;SASELECT
```

Service Analysis for IBN changes two CI commands (ADDCOS and DELCOS) and adds four new MAP commands (IBNTRK, ATTCON, ADDCUST, and DELCUST).

ADDCOS and DELCOS

The IBN line class code has been added to the valid classes that are a subset of those for the line class code. This allows the service analyst to add and delete the IBN line class code in the LineSel level.

IBNTRK

The IBNTRK command, found at the SASelect MAP level, function key 17 (see the following figure), is used to initiate IBN trunk service analysis. It places the service analyst in the SA level, binds the IBNTRK subsystem to SASUB 1, and prepares to monitor IBN trunk originated calls.

When this command is entered from the MAP level, it invokes the system service analysis routines to begin service analysis for IBN trunk calls and displays the analysis level of SA (see figure SA level for IBNTRK SA with call being analyzed).

SA Select level with IBNTRK and ATTCON commands

```
Ofc   OFFICE
Mtr   On
Mode                      TOPS  Traffic  Offices
SASelect
 0 QUIT                   TO 1  TO 2
 2 MONREL                   0     0
 3 MONCONN                Incl  Incl
 4 AOSSsel
 5 ExclTO_
 6 InclTO_
 7 OutAsst
 8 LNSMP
 9 TNSMP
10 DDDIn
11 DDO                 SrvType: TA DA INT
12 RCAMA               LINE SELECTION: COS NXX SITE LM-DRAWER
13                     CUST-GROUP
14 LineSel                            OFF OFF OFF  OFF  OFF
15
16
17 IBNTRk
18 ATTCOn
  OPERATOR
Time  19:39
```

ATTCON

The ATTCON command, found at the SASelect MAP level, function key 18 (see figure SA Select level with IBNTRK and ATTCON commands), and also at the LineSel MAP level, function key 18 (see figure Line Sel level with ADDCUST and DELCUST commands), is used to initiate attendant console service analysis. It places the service analyst in the SA level, binds the ATTCON subsystem to SASUB 1, and prepares to monitor calls terminating on an attendant console.

Service Analysis for IBN (continued)

When a call type is selected in the SASelect level, the SA level is entered, and the operator waits for a call of the desired call type to be randomly selected by call processing. When monitoring of a call begins, the required information for that call type is presented to the analyst. The analyst can then request to enter the SAEDIT level and modify or enter events.

This command can be entered after selecting an attendant console on a particular customer group using the ADDCUST command from the LineSel MAP level. If no customer group is selected, any call that terminates on an attendant console is analyzed and presented to the analyst.

SA Select level with IBNTRK and ATTCON commands

```
   Ofc    OFFICE    Calltype   IBNTRK    13:25:35
   Mon    ON
   Mode   IBNTRK


SA                    Cld # 776–1234(4)
 0 SASelect
 2 Ring
 3 Ans
 4 EndClg
 5 EndCld
 6 StartChg            RCR CON DSG
 7 Opr                  0   4   10
 8 Ack
 9 StartOpr
10 OthOpr
11 RecAnn
12 Busy
13 SpecSig
14 Time
15 Voice
16 Print_
17 SAEdit_
18 NextCall
Time  xx:mm >_
```

ADDCUST

The ADDCUST command, found at the LineSel MAP level, function key 14 (see figure Line Sel level with ADDCUST and DELCUST commands), allows the analyst to enter one or more customer groups for line and attendant console screening.

If a customer group is selected for screening with this command, only calls for lines that originate on that particular customer group or terminate on an

attendant console on that particular customer group are presented to the analyst.

Only those customer groups being served in the switch under analysis can be added for screening. A maximum of ten customer groups can be added for each analyst. The display is updated as each customer group is added. To select POTS and IBN lines in a particular customer group, the customer group name and line class code of IBN must be entered in the LineSel level.

SA Select level with IBNTRK and ATTCON commands

```
   Ofc  OFFICE
   Mon  ON   SERVICE CLASS  OFFICE SITE  LM-DRAWER  CUST-GROUP
LineSel             1FR   622  HOST 00 0 19    COMIBN2
                    IBN   621                   COMIBN3
 0 SASelect
 2 AddCos_
 3 DelCos_
 4
 5 AddOfc_
 6 DelOfc_
 7
 8 LNSMP
 9
10 AddSite_
11 DelSite_
12 AddDwr_
13 DelDwr_
14 AddCust_
15 DelCust_
16 RESET
17
18 ATTCon_
   User ID
Time  xx:mm >_
```

DELCUST

The DELCUST command, found at the LineSel MAP level, function key 15 (see figure Line Sel level with ADDCUST and DELCUST commands), allows the analyst to delete any customer group previously selected for line or attendant console screening.

If all selected customer groups are deleted, any call that terminates on an attendant console is analyzed and presented to the analyst.

The display is updated as each customer group is deleted.

Service Analysis for IBN (end)

Translations table flow

Service Analysis for IBN does not affect translations table flow.

Limitations and restrictions

The following limitations and restrictions apply to Service Analysis for IBN:

- Features that are excluded from Service Analysis for IBN include uniform call distribution (UCD), multiple appearance directory number (MADN), programming custom calling features, feature use by access code, and direct inward system access (DISA).
- Service analysis does not monitor flash-induced feature calls. If the calling or called party activates a feature by means of a hookswitch flash, the service analyst is notified that the station is activating a flash feature, and the call is disconnected from the service-analysis MAP.
- The following attendant features cause disconnection from the service-analysis MAP: conference, attendant camp-on, call waiting, and call park.
- Calls originated by an attendant console are excluded from Service Analysis for IBN.

Interactions

Service Analysis for IBN has no functionality interactions.

Activation/deactivation by the end user

Service Analysis for IBN requires no activation or deactivation by the end user.

Station Message Detail Recording

Service Analysis for IBN does not affect Station Message Detail Recording.

Datafilling office parameters

Service Analysis for IBN does not affect office parameters.

Datafill sequence

Service Analysis for IBN does not affect datafill.

Translation verification tools

Service Analysis for IBN does not use translation verification tools.

SERVORD

Service Analysis for IBN does not use SERVORD.

SMDR Derived from Bellcore AMA Record

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS24 and up

Prerequisites

To operate, SMDR Derived from Bellcore AMA Record has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC Standard, MDC00003

Description

SMDR Derived from Bellcore AMA Record provides a new indicator in field SERVICE OBSERVED, TRAFFIC SAMPLED of Bellcore AMA records. This indicator designates the AMA record as one that requires revenue accounting office (RAO) processing for Station Message Detail Recording (SMDR) purposes.

Operation

AMA records are marked as RAO if the originator of the call belongs to an MDC customer group that has been designated for derived SMDR. MDC originators applicable to this feature consist of the following:

- MDC line
- MDC trunk
- MDC attendant console
- MDC virtual facility group (VFG)
- MDC direct inward system access (DISA) call

SMDR Derived from Bellcore AMA Record applies to all Bellcore AMA call codes that can be produced for MDC originators. Designating an MDC customer group for derived SMDR does not force an AMA record to be produced. Nonbillable calls made by members of such a group do not produce an AMA record solely because the group is designated for derived SMDR.

SMDR Derived from Bellcore AMA Record (continued)

User interface

SMDR Derived from Bellcore AMA Record does not affect user interface.

Translations table flow

SMDR Derived from Bellcore AMA Record does not affect translations table flow.

Limitations and restrictions

The following limitations and restrictions apply to SMDR Derived from Bellcore AMA Record:

- SMDR Derived from Bellcore AMA Record is not associated with the existing DMS SMDR capability, and it does not otherwise influence the generation of those SMDR records. AMA billing records terminating to a member of a customer group designated for derived SMDR are excluded from being marked unless they were originated by a member of a customer group so designated.
- Bellcore AMAB117 logs do not indicate whether the AMA record produced for this call is marked for derived SMDR.

Interactions

SMDR Derived from Bellcore AMA Record has no functionality interactions.

Activation/deactivation by the end user

SMDR Derived from Bellcore AMA Record requires no activation or deactivation by the end user.

Billing

SMDR Derived from Bellcore AMA Record does not affect billing.

Station Message Detail Recording

SMDR Derived from Bellcore AMA Record does not affect Station Message Detail Recording.

Datafilling office parameters

SMDR Derived from Bellcore AMA Record does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement SMDR Derived from Bellcore AMA Record. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for SMDR Derived from Bellcore AMA Record

Table	Purpose of table
CUSTSMDR	Customer group SMDR option. This table contains the SMDR options assigned to each customer group.

Datafilling table CUSTSMDR

Table CUSTSMDR (Customer Group SMDR Option) contains the SMDR options assigned to each customer group.

The following table shows the datafill specific to SMDR Derived from Bellcore AMA Record for table CUSTSMDR. Only those fields that apply directly to SMDR Derived from Bellcore AMA Record are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table CUSTSMDR

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		DERVSMDR	Options. This field specifies the derived SMDR option. Enter DERVSMDR.

Datafill example for table CUSTSMDR

The following example shows sample datafill for table CUSTSMDR.

MAP display example for table CUSTSMDR

```
    CUSTNAME    BUSNSID
                                                    OPTIONS
 ____________________________________________________________
    ISDNMDC       0
                            (DERVSMDR )    (ANSTIM 15)  $
```

Translation verification tools

SMDR Derived from Bellcore AMA Record does not use translation verification tools.

SMDR Derived from Bellcore AMA Record (end)

SERVORD

SMDR Derived from Bellcore AMA Record does not use SERVORD.

Terminating Billing Option

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS29 and up

Prerequisites

To operate, Terminating Billing Option requires BAS Generic, BAS00003.

Description

The Terminating Billing Option feature provides the operating company with the ability to generate an Automatic Message Accounting (AMA) record for a call that terminates to a line or through a virtual facility group (VFG). This feature allows the operating company to

- charge an access fee for each line termination
- assign up to 200 unique call codes and (optionally) 200 unique service feature codes

Prior to this feature, the operating company had limited capability for call termination charging. However, this feature now provides the operating company the capability to charge other terminators such as enhanced service providers for usage.

Operation

Terminating Billing Option is provided for plain old telephone service (POTS) lines, MDC stations, Meridian business sets (MBS), Subscriber Services (RES) lines, IBN VFGs, and POTS VFGs.

When Terminating Billing Option is assigned to a line or VFG, it provides a billing method to charge the end user for the call made. A line or VFG is marked by having Terminating Billing Option assigned to it. The operating company can assign the records that will have a unique call code and service feature code. This allows operating companies to generate different records, depending on their individual requirements.

When a call terminates to a line with Terminating Billing Option assigned, an AMA record is produced containing a call code between 800 and 999. A service feature code can optionally be assigned that also has a range of 800 to 999. The same processing occurs with a call terminating to a POTS or IBN VFG.

Terminating Billing Option (continued)

Translations table flow

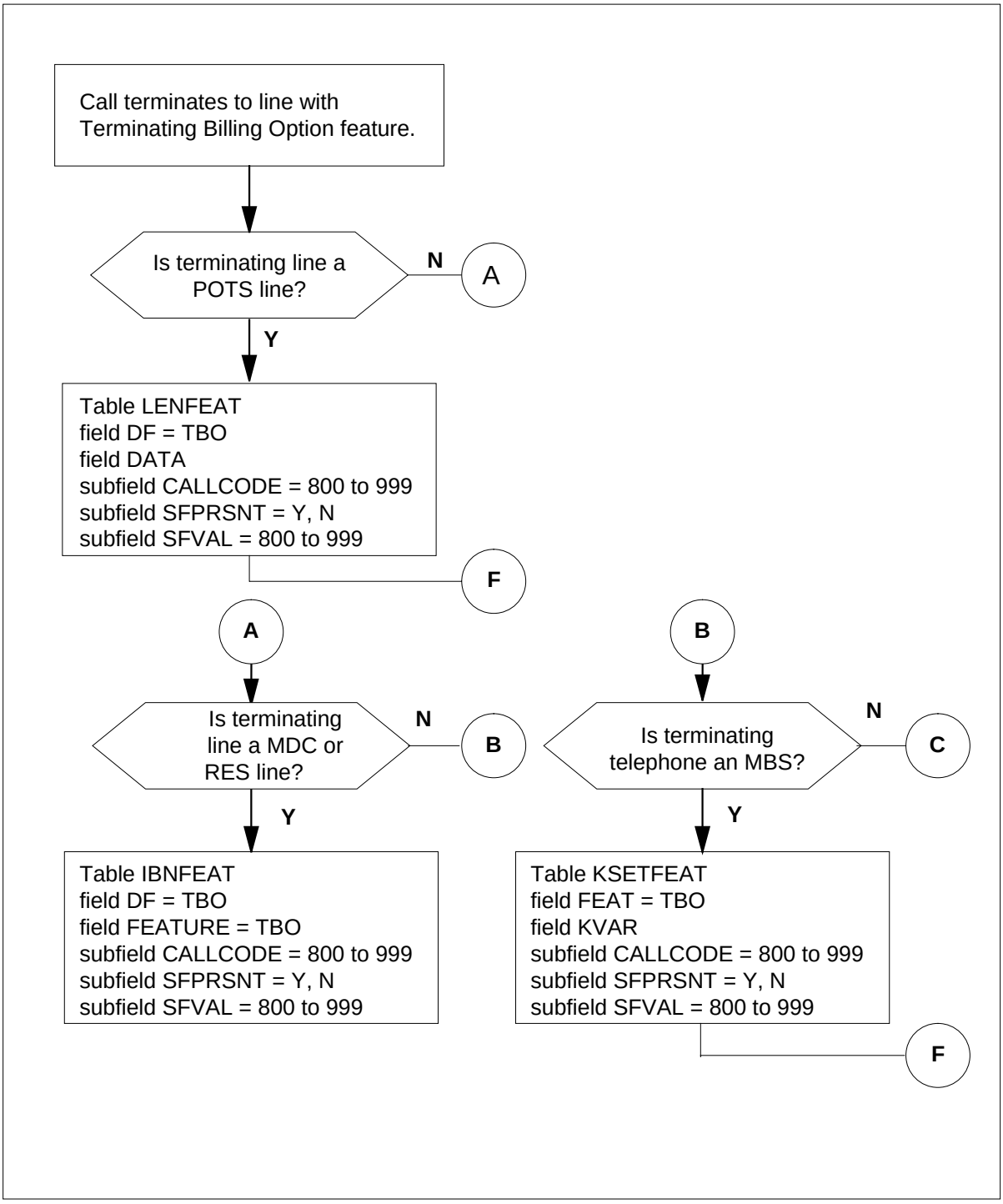
The Terminating Billing Option translations tables are described in the following list:

- Table LENFEAT (Line Feature) lists the features that are assigned to a specific line in Table LENLINES (Line Assignment). When Terminating Billing Option is present on a line, this option signifies that the operating company wants to bill calls on the terminating line.
- Table IBNFEAT (IBN Line Feature) list the features that are assigned to a specific line in Table IBNLINES (IBN Line Assignment). When Terminating Billing Option is present on a line, this option signifies that the operating company wants to bill calls on the terminating line.
- Table KSETFEAT Business Set and Data Unit Feature) lists the line features that are assigned to the business sets and data units listed in Table KSETLINE (Business Set and Data Unit Line Assignment). When Terminating Billing Option is present on a line, this option signifies that the operating company wants to bill calls on the terminating line.
- Table HUNTGRP (Hunt Group) contains the data for each hunt group assigned in the switching unit. Option Terminating Billing Option allows the operating company to assign a call code and service feature code for the AMA record generated on calls to members of a hunt group.
- Table VIRTGRPS (Virtual Facility Groups) is made up from data provided from Tables UCDGRP, VFGDATA (Virtual Facility Group Data), and VFGENG (Virtual Facility Group Engineering). Table UCDGRP provides a mechanism to eliminate loop-around trunks. Option VFG is added to allow the assignment of option TBO to VFGs.
- Table UCDGRP (Uniform Call Distribution Group) contains the primary directory number (PDN) and up to four supplementary DNs of a Uniform Call Distribution (UCD) group. Option TBO is added to allow assignment on a UCD group basis.

The Terminating Billing Option translation process is shown in the flowchart that follows.:

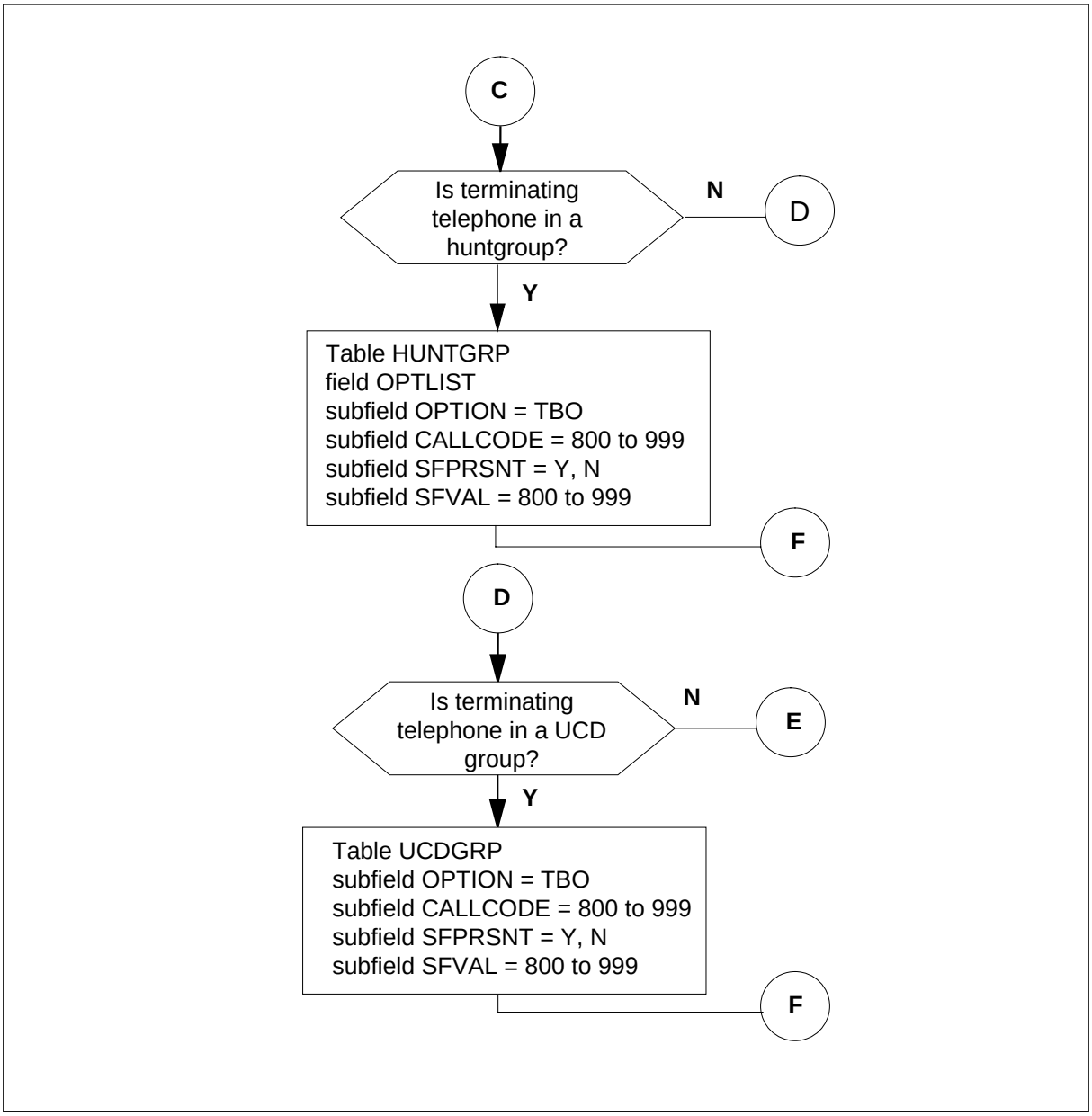
Terminating Billing Option (continued)

Table flow for activating Terminating Billing Option



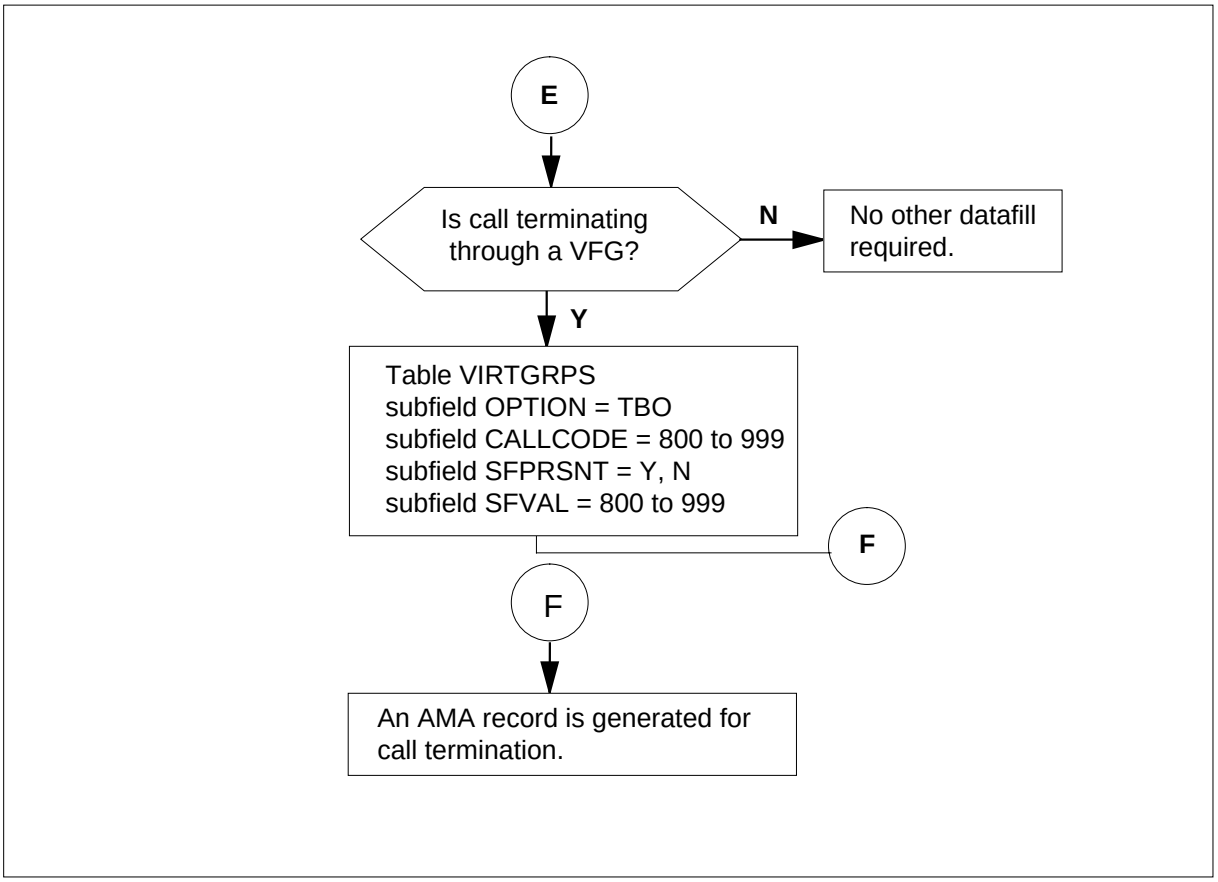
Terminating Billing Option (continued)

Table flow for activating Terminating Billing Option (continued)



Terminating Billing Option (continued)

Table flow for activating Terminating Billing Option (continued)



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

Datafill example for Terminating Billing Option

Datafill table	Example data
LENFEAT	HOST 00 0 00 01 S TBO TBO 800 Y 800
IBNFEAT	HOST 00 0 08 01 TBO TBO 800 Y 800
KSETFEAT	HOST 00 0 08 06 1 TBO TBO 800 Y 800
HUNTGRP	0 613 6211176 DLH N Y N RCVD N N N N N 10 TBO 800 Y 900 $
VIRTGRPS	VFG1 SIZE 1 POTS 6137221234 0 N TBO 800 Y 800
UCDGRP	DAGUCD N IBNTST 0 OFRT 30 OFRT 30 0 16 N 1 0 0 16 TB0 800 Y 900 $

Terminating Billing Option (continued)

Limitations and restrictions

The following limitations and restrictions apply to Terminating Billing Option:

- Option TBO is a terminating option, available only to POTS lines, MDC stations, MBSs, RES lines, and IBN and POTS VFGs.
- If Terminating Billing Option is assigned to a MADN group, it can only be assigned to the group's primary member.
- Terminating Billing Option is only operational in a switch configured for Bellcore AMA format. It is not compatible with line options TRMBOPT, UCD, ACD, UCDLG, GIC, SMDI, or DTM. It is not compatible with the call forwarding options CBE, IECFB, CBI, CBU, IECFD, CDI, CDE, CDU, CFB, CFBL, CFD, CFDA, CFDVT, CFF, CFGD, CFGDA, CFI, CFK, CFRA, CFS, CFU, CFW, and CUSD. Terminating Billing Option is, however, compatible with the following line class codes (LCC): 1FR, 1MR, RES, IBN, PSET, M5009, M5112, M5209, and M5312.
- Terminating Billing Option is assignable only on a hunt or UCD group basis; it cannot be assigned to an individual line of a hunt or UCD group.
- A Terminating Billing Option record is not generated on a line assigned the Free Number Terminating (FNT) feature.
- Calls routed by an operator and terminating to an MDC line with Terminating Billing Option over an operator position trunk do not mark the Terminating Billing Option record as being answered.
- The Terminating Billing option is not supported if the originator is daafilled using the open dial plan (the area code has four or more digits).

Interactions

The following paragraphs describe the interactions between Terminating Billing Option and other functionalities.

Call Forwarding (CFW)

Terminating Billing Option is not compatible with call forwarding, but if an operating company wishes to generate a Terminating Billing Option record that terminates to a line with call forwarding, a VFG with Terminating Billing Option assigned to it can be used.

Call pickup (CPU)

When a line with the call pickup option (CPU) assigned to it picks up a call that is intended for a Terminating Billing Option line, the Terminating Billing Option line is billed for the call.

Equal access (EA)

When an incoming call originates on an equal access trunk marked for terminating billing, and terminates on a line with Terminating Billing Option, both Terminating Billing Option and equal access billing records are created.

Hunt groups

The following hunt group types can use Terminating Billing Option: MLH, DLH, DNH and BNN. Terminating Billing Option is assigned on a primary member basis, but applies to the entire group. Therefore, one AMA record is generated per group, per termination.

Line options

Terminating Billing Option calls that are assigned to lines with Call Park (PRK), Call Hold, and Ring Again (RAG) generate AMA records for calls terminating to those particular lines.

Line overflow DN/route

Terminating Billing Option can be assigned to a hunt group with either the line overflow DN (LOD) option or the line overflow route (LOR) option. If an idle line of a hunt group cannot be found, and the call terminates to the specified overflow DN or route, no terminating billing record is generated unless the specified overflow DN has the TBO option.

Line studies (SDY)

The Terminating Billing Option feature can be assigned to a line that has the line studies (SDY) option; therefore, if a call terminates to a line with both the Terminating Billing Option and the SDY option, an AMA record for both features is generated, and the study indicator in the Terminating Billing Option record is marked.

MADN

Terminating Billing Option can be assigned to MADN groups MCA, SCA, and EXB; however, Terminating Billing Option can only be assigned to the primary member, even though it applies to the entire group. In addition, one AMA record is generated per group, per termination. When changing the MADN primary member with Terminating Billing Option assigned to a secondary member, the TBO option must first be removed or the change is disallowed.

Activation/deactivation by the end user

Terminating Billing Option requires no activation or deactivation by the end user.

Terminating Billing Option (continued)

Billing

Terminating Billing Option does not change current AMA billing. If a line or VFG with Terminating Billing Option assigned produces a billing record, the call code and service feature code fields of the AMA record contain the call code and service feature codes assigned to the line or VFG by the operating company. The call code ranges from 800 to 999.

The Terminating Billing Option billing record contains both a calling and called number field. The TBO's station DN is placed in the called number field, and the originating station's DN is placed in the called number field.

Terminating Billing Option does not create any new billing records or fields. Terminating Billing Option utilizes the following standard structure code formats:

- 00001 (the call was answered)
- 00002 (the call was unanswered)
- 00101 (the call was long duration)

The following figure is an example of an AMA record generated for call code 00001.

Call code 00001

```
HEX ID: AA  STRUCTURE CODE:00001C  CALL CODE:800C  SENSOR
TYPE:036C
SENSOR ID:0000000C REC OFFICE TYPE:036C  REC OFFICE ID:0000000C
DATA:90420C  TIMING IND:00000C    STUDY IND:0201000C  ANSWER:0C
SERVICE OBSERVED:0C  OPER ACTION:0C   SERVICE FEATURE:900C
ORIG NPA:919C
ORIG NUMBER:7828826C  OVERSEAS IND:0C   TERM NPA:00919C
TERM NUMBER:6215001C  CONNECT TIME:1035414C  ELAPSED
TIME:000098182C
```

Station Message Detail Recording

Terminating Billing Option does not affect Station Message Detail Recording.

Datafilling office parameters

Terminating Billing Option does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement Terminating Billing Option. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Terminating Billing Option

Table	Purpose of table
LENFEAT (Note)	Line Feature Table. This table lists the features that are assigned to a specific line in table LENLINES.
IBNFEAT (Note)	IBN Line Feature. This table lists the following line features that are assigned to the IBN lines listed in table IBNLINES.
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 the line features that are assigned to the Meridian digital telephone sets and DUs listed in table IVDINV.
HUNTGRP (Note)	Hunt Group. This table contains the data for each hunt group assigned in the switching unit.
VIRTGRPS	Virtual Facility Groups. This table is made up from data provided from Tables VIRTGRPS, VFGDATA, and VFGENG.
UCDGRP	Uniform Call Distribution Group. This table contains the PDN and up to four supplementary DNs of a UCD group
Note: These tables are datafilled through SERVORD; therefore, no datafill procedures are provided.	

Datafilling table VIRTGRPS

Table VIRTGRPS (Virtual Facility Groups) is made up from data provided from Tables VIRTGRPS, VFGDATA, and VFGENG.

Table VIRTGRPS is datafilled to allow assignment of TBO to VFGs. Values for the call code and service feature code fields are assigned to the VFG with option TBO.

The following table shows the datafill specific to Terminating Billing Option for table VIRTGRPS. Only those fields that apply directly to Terminating

Terminating Billing Option (continued)

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

Datafilling table VIRTGRPS

Field	Subfield or refinement	Entry	Explanation and action
OPTION		TBO	Options. This field contains the list of options assigned to the VFG. Enter TBO.
If field OPTIONS is set to TBO, subfields CALLCODE and SFPRSNT require datafill.			
	CALLCODE	800 to 999	Call Code. This subfield specifies call code value for the AMA record. Enter a value from 800 to 999.
	SFPRSNT	Y or N	Service Feature Code Present. This subfield indicates whether a service feature code associated with the feature is to be printed on the AMA record. Enter Y or N.
If SFPRSNT is set to Y, subfield SFVAL requires datafill.			
	SFVAL	800 to 999	Service Feature Value. This subfield indicates whether a service feature value associated with the feature is to be printed on the AMA record. Enter a value from 800 to 999.

Datafill example for table VIRTGRPS

The following example shows sample datafill for table VIRTGRPS.

MAP display example for table VIRTGRPS

```
KEY                          DATA                OPTIONS
_____________________________________________________________
VFG1    SIZE 1 POTS 6137221234 0 N (TBO 800 Y 800) $
```

Datafilling table UCDGRP

Table UCDGRP (Uniform Call Distribution Group) contains the PDN and up to four supplementary DNs of a UCD group. Table UCDGRP is datafilled to allow the assignment of the Terminating Billing Option. feature on a UCD group basis.

The following table shows the datafill specific to Terminating Billing Option for table UCDGRP. Only those fields that apply directly to Terminating Billing

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

Datafilling table UCDGRP

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		TBO	Options. This field OPTIONS specifies the list of options assigned to the UCD group. Enter TBO.
If OPTIONS is set to TBO, subfields CALLCODE and SFPRSNT require datafill.			
	CALLCODE	800 to 999	Call Code. This subfield specifies the call code value for the AMA record. Enter a value from 800 to 999.
	SFPRSNT	Y or N	Service Feature Code Present. This subfield indicates whether a service code feature associated with the feature that is to be printed on the AMA record. Enter Y or N.
If SFPRSNT is set to Y, subfield SFVAL requires datafill.			
	SFVAL	800 to 999	Service Feature Value. This subfield indicates whether a service feature value associated with the feature that is to be printed on the AMA record. Enter a value from 800 to 999.

Datafill example for table UCDGRP

The following example shows sample datafill for table UCDGRP.

MAP display example for table UCDGRP

```
UCDNAME ACD     CUSTGRP UCDRNGTH                   THROUTE
NSROUTE PRIOPRO MAXPOS DBG DEFPRIO RLSCNT MAXWAIT MAXCQSIZ
                                                   OPTIONS
_____________________________________________________________
DAGUCD  N       IBNTST      0                   OFRT  30
  OFRT      30      0   16    N        1    0      0   16
                                    (TBO 800 Y 900)   $
```

Translation verification tools

Terminating Billing Option does not use translation verification tools.

Terminating Billing Option (continued)

SERVORD

Option TBO is added to or deleted from end user lines through the Service Order System (SERVORD) by using the ADO (add option) and DEO (delete option) commands, respectively. Option TBO is assigned to new lines by using the NEW (establish service) command. Option TBO is removed (along with the line) by using the OUT (remove service) command.

The EST (establish a hunt or call pickup group) command in SERVORD is used to assign option TBO when establishing a hunt group or call pickup group, and the ADD (add line to a hunt group) command is used to assign option TBO when adding lines to a hunt group. The CHF (change feature information for preexisting feature) command is used when changing existing Terminating Billing Option data associated with a line.

Option TBO is a group option when applied to hunt groups, MADNs and UCD groups. Option TBO is assigned to a hunt group through the EST or ADO command on the pilot DN. The ADO command cannot be used to add option TBO to secondary hunt group members. Also, the CHF command can only be used on the primary member of a hunt group to change Terminating Billing Option information.

MADN groups are established through the SERVORD commands NEW and ADO. Option TBO can only be assigned to the primary member of a MADN group. The DEO and CHF commands are used when changing existing Terminating Billing Option data associated with a line.

UCD groups are created by members with option UCD. Option TBO must be assigned to a UCD group through table control. Therefore, option TBO is incompatible with line options UCD and ACS.

The CHG command cannot be used to alter option TBO for VFG.

The following table shows the SERVORD prompts used to assign option TBO to a line.

Note: Table LENFEAT, IBNFEAT, KSETFEAT, or HUNTGRP is automatically datafilled when Terminating Billing Option is assigned using SERVORD.

SERVORD limitations and restrictions

Terminating Billing Option has no SERVORD limitations and restrictions.

Terminating Billing Option (continued)

SERVORD prompts

The following table shows the SERVORD prompts used to assign Terminating Billing Option to a line.

SERVORD prompts for Terminating Billing Option

Prompt	Valid input	Explanation
OPTION	TBO	Indicates the option to be assigned. Enter TBO.
CALLCODE	800 to 999	Indicates the call code for the assigned line. Enter a value from 800 to 999.
SFPRSNT	Y, N	Indicates whether or not the selector for service feature is present. Enter Y or N.
SFVAL	800 to 999	Indicates the service feature code. Enter a value from 800 to 999.

SERVORD example for adding Terminating Billing Option

The following SERVORD example shows how Terminating Billing Option is added to a new MDC line using the NEW command.

Terminating Billing Option (continued)

SERVORD example for adding Terminating Billing Option to a new line in prompt mode

```
>NEW
SONUMBER:   NOW 76  1   1   PM
>
DN:
> 6215000
LCC:
> IBN
GROUP:
> IBNTST
SUBGRP:
> 0
NCOS:
> 0
SNPA:
> 613
LATANAME:
>NILLATA
LTG:
> 0
LEN:
>0 0 1 16
OPTION:
>DGT
OPTION:
>TBO
CALLCODE:
> 800
SFPRESENT:
> Y
SFVAL:
> 900
OPTION:
> $
```

SERVORD example for Terminating Billing Option in no-prompt mode

```
>NEW $ 6215000 IBN IBNTST 0 0 613 0 0 0 1 16 DGT TBO 800 Y 900 $
```

The following service order example shows how Terminating Billing Option is added to an existing POTS, RES, or MDC line using the ADO command.

Terminating Billing Option (end)

SERVORD example for adding Terminating Billing Option to an existing line in prompt mode

```
>ADO
SONUMBER:   NOW 88  12  3   AM
>
DN_OR_LEN:
> 6215000
OPTION:
> TBO
CALLCODE:
> 800
SFPRESENT:
> Y
SFVAL:
> 900
OPTION:
> $
```

SERVORD example for Terminating Billing Option in no-prompt mode

```
>ADO $ 6215000 TBO 800 Y 900 $
```

The following service order example shows how Terminating Billing Option is changed using the CHF command so that it no longer has the optional service feature code.

SERVORD example for changing Terminating Billing Option on a line in prompt mode

```
>CHF
SONUMBER:   NOW 88  1   2   AM
>
DN_OR_LEN:
> 6215000
OPTION:
> TBO
CALLCODE:
> 800
SFPRESENT:
> N
OPTION:
> $
```

Time of Day NCOS

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS13 and up

Prerequisites

To operate, Time of Day NCOS requires BAS Generic, BAS00003.

Description

The Time of Day NCOS feature provides the capability for mapping normal class of service (COS) values into new values based on the time of day, the day of the week, or the year. This feature also provides the capability for conditional routing based on the NCOS.

This feature applies whenever requirements are based on time-dependent NCOSs. For example, calls having a more restrictive NCOS can be imposed after normal business hours.

Conditional routing based on NCOS allows for flexible screening of COS values at the routing stage of a call. For example, calls having a more restrictive NCOS can be routed to treatment, while calls having a less restrictive NCOS can be routed over particular trunk groups.

Operation

Whenever NCOS data is to be examined, a time-of-day (TOD) NCOS utility is employed to determine what NCOS data to use at a specific time. The call's NCOS is not altered.

A simple utility program performs the TOD NCOS mapping functions. The utility is given three parameters:

- a TOD NCOS option indicator
- the operating company's TOD NCOS system name
- an NCOS

The first parameter indicates whether or not the TOD NCOS option has been datafilled for the customer group. The second parameter is required in order to query the general TOD system. The third parameter is the NCOS to be mapped. The utility returns a TOD NCOS.

The actual TOD data for the TOD NCOS system is datafilled in the TOD tables TODHEAD (Time of Day Head), DAYTYPES (Type of Day), DAYOWEEK (Day of Week), DAYOYEAR (Day of Year), and TIMEODAY (Time of Day). Refer to the datafill procedures for these tables in this feature description.

Conditional routing (the capability to distribute calls over several lists of trunk groups on a percentage basis when the automatic route selection feature is provided) based on NCOS is datafilled in table IBNRTE (IBN Route). The specified COS mapping is performed on the call's original NCOS; the screening result produced by the mapping is an “allow" or “disallow" indication on whether or not the specified route type is to be taken.

> ***Note:*** The COS mapping is performed on the call's TOD NCOS instead of its original NCOS if the Time of Day NCOS feature has been datafilled.

Translations table flow

Time of Day NCOS does not affect translations table flow.

Limitations and restrictions

The following limitation and restriction applies to Time of Day NCOS:

If the COS mapping utility fails when used by the Time of Day NCOS feature, it is not clear what NCOS is returned by the TOD NCOS utility. In most cases, the original NCOS is returned in this situation.

> ***Note:*** The original NCOS is also returned when the TOD NCOS option is not present.

Interactions

The following paragraphs describe the interactions between Time of Day NCOS and other functionalities.

The Time of Day NCOS feature affects all features that employ NCOSs.

In the Network Information Signals feature, BV0789, COS values are mapped before being outpulsed in the signaling protocol to another switch. In this situation, the COS mapping is never performed on the call's TOD NCOS, even if the Time of Day NCOS feature has been datafilled. This restriction is necessary to extend TOD variance across switches.

Activation/deactivation by the end user

Time of Day NCOS requires no activation or deactivation by the end user.

Time of Day NCOS (continued)

Billing

Time of Day NCOS does not affect billing.

Station Message Detail Recording

Time of Day NCOS does not affect Station Message Detail Recording.

Datafilling office parameters

Time of Day NCOS does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement Time of Day NCOS. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Time of Day NCOS

Table	Purpose of table
IBNRTE	IBN Route. This table contains route lists identified by a route reference index number.
CUSTHEAD	Customer Group Head. This table lists the names assigned to the blocks of data in table IBNXLA that store the data for the translation of digits.
DAYTYPES	Type of Day. This table defines the names of all the DAYTYPES required in the Time Of Day (TOD) system.
TODHEAD	Time of Day Head. This table id the head table for the time of day. It defines how tables DAYOWEEK, DAYOYEAR, and TIMEDAY are used.
TIMEODAY	Time of Day. This table is used to define the Time Of Day (TOD) result for a given TOD system and DAYTYPE.
DAYOWEEK	Day of Week. This table is used to find the required Time Of Day (TOD) system for each day of the week.
DAYOYEAR	Day of Year. This table is used to define any special days of the year for the Time Of Day (TOD) system that override values in table DAYOWEEK
SFWALARM	Software Alarm. This table is datafilled by the system and contains the data for systems alarm.

Datafilling table IBNRTE

Table IBNRTE (IBN Route) contains route lists identified by a route reference index number. Table IBNRTE must be datafilled to define the route lists used by the Time of Day NCOS feature.

Time of Day NCOS (continued)

The following table shows the datafill specific to Time of Day NCOS for table IBNRTE. Only those fields that apply directly to Time of Day NCOS are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table IBNRTE

Field	Subfield or refinement	Entry	Explanation and action
RTE		0 to 1023, blank	Route Reference Index. This field specifies the route reference index. If the record is the first in the route list, enter the route reference number that is assigned to the route list. Otherwise, leave the entry blank.
RTELIST		see subfields	Route List. This field consists of subfields IBNRTSEL, CONDITION, and CONDRTE.
	IBNRTSEL	CND	IBN Route Selector. This subfield specifies the route selector required for conditional routes. Enter CND.
	CONDITION	see subfield	Condition. This subfield consists of subfields CNDSEL, TODNAME, TIMES, COSMAP, CALLCHR, and SITE. Only subfield CNDSEL applies to this feature.
	CNDSEL	ALWAYS, COSMAP, TOPEAXFR, TOPEAALT, TOPEACLS, INTERLATA, SITE, TOD, EA, SNPA, NRR, RND, CALLCHR	Condition Selector. This subfield specifies when transfer is required. Enter ALWAYS when transfer is always required.

Datafill example for table IBNRTE

The following example shows sample datafill for table IBNRTE.

MAP display example for table IBNRTE

```
RTE                                          RTELIST
_____________________________________________________________
  1                            (CND   ALWAYS SK 0) $
```

Time of Day NCOS (continued)

Datafilling table CUSTHEAD

Table CUSTHEAD (Customer Group Head) contains defines the public and private transaction capability application part (TCAP) translator names for each customer group. Table CUSTHEAD must be datafilled to include the TOD NCOS option for the customer group.

The following table shows the datafill specific to Time of Day NCOS for table CUSTHEAD. Only those fields that apply directly to Time of Day NCOS 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		see subfields	Options. This field specifies the list of options and associated subfields that are assigned to the customer group. Enter TODNCOS for time of day network class of service.
If OPTIONS is set to TODNCOS, subfields OPTION and TODNAME require datafill.			
	OPTION	TODNCOS	Option. This subfield specifies the time of day network class of service option. Enter TODNCOS.
	TODNAME	1- to 8-alphanumeric	Time of Day Name. This subfield specifies the 1- to 8-character alphanumeric name assigned to the time of day network class of service system. Enter the time of day name.

Datafill example for table CUSTHEAD

The following example shows sample datafill for table CUSTHEAD.

MAP display example for table CUSTHEAD

```
CUSTNAME    CUSTXLA    DGCOLNM    IDIGCOL            OPTIONS
_____________________________________________________________
PRADEFAULT  PRAXLA     NDGT       NIL
                  ( VACTRMT  0) ( EXTNCOS 0) ( TODNCOS BNR)
```

Datafilling table DAYTYPES

Table DAYTYPES (Type of Day) defines the names of all the DAYTYPES required in the TOD system. A DAYTYPE must be entered here before it can be used in tables TODHEAD, DAYOWEEK, DAYOYEAR, and TIMEODAY.

The following table shows the datafill specific to Time of Day NCOS for table DAYTYPES. Only those fields that apply directly to Time of Day NCOS are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table DAYTYPES

Field	Subfield or refinement	Entry	Explanation and action
DAYTYPE		1- to 8-alphanumeric	Type of Day. This field specifies the 1- to 8-character alphanumeric name assigned to the type of day. Enter the type of day.

Datafill example for table DAYTYPES

The following example shows sample datafill for table DAYTYPES.

MAP display example for table DAYTYPES

```
DAYTYPE
_______________________________________________________________
 ALLDAY
```

Datafilling table TODHEAD

Table TODHEAD (Time of Day Head) defines how tables DAYOWEEK, DAYOYEAR, and TIMEODAY are used for the customer group.

The following table shows the datafill specific to Time of Day NCOS for table TODHEAD. Only those fields that apply directly to Time of Day NCOS are

Time of Day NCOS (continued)

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

Datafilling table TODHEAD

Field	Subfield or refinement	Entry	Explanation and action
TODTYPE		NCOC, blank	Time of Day Type. This field specifies the time of day type. Enter NCOS for the first record for the Time of Day NCOS screening entry; leave the field blank for all other records.

Datafill example for table TODHEAD

The following example shows sample datafill for table TODHEAD.

MAP display example for table TODHEAD

```
TODNAME    TODTYPE                                DAYTYPES
_______________________________________________________________
BNR        NCOS NIL                                     $
```

Datafilling table TIMEODAY

Table TIMEODAY (Time of Day) defines the TOD result for a given TOD system and DAYTYPE.

The following table shows the datafill specific to Time of Day NCOS for table TIMEODAY. Only those fields that apply directly to Time of Day NCOS are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table TIMEODAY (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
TODNAME		1- to 8-alphanumeric	Time of Day Name. This field specifies the name assigned to the TOD system. Enter an alphanumeric 1- to 8-character name..
DAYTYPE		alphanumeric	Day Type. This field specifies the day type assigned to this TOD and Percentage Routing entry. The day type must be defined in table DAYTYPES.

Datafilling table TIMEODAY (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
TIME		see subfields	Time of Day Type. This field specifies consists of the subfields HOUR and MINUTE.
	HOUR	0 to 23	Hour. This subfield specifies the starting hour for the TOD result. Enter a value from 0 to 23.
	MINUTE	0 to 59	Minute. This subfield specifies the starting minute for the TOD result. Enter a value from 0 to 59
DATA		see subfields	Data. This field consists of subfields TODTYPE and COSMAP.
	TODTYPE	NCOS	Time of Day Type. This subfield specifies the time of day. Enter NCOS.
	COSMAP	1- to 16-alphanumeric	Class of Service Mapping. This subfield specifies the Class of Service name assigned to TOD NCOS screening. This name must be assigned to the customer group in table CUSTHEAD with the option TODNCOS. Enter an alphanumeric 1- to 16-character name.

Datafill example for table TIMEODAY

The following example shows sample datafill for table TIMEODAY.

MAP display example for table TIMEODAY

```
TODNAME    DAYTYPE    TIME                          DATA
_____________________________________________________________
BNRTOD     WEEKDAY    0  0          NCOS       BNRMAPTOD
```

Datafilling table DAYOWEEK

Table DAYOWEEK (Day of Week) defines the required TOD system for each day of the week.

The following table shows the datafill specific to Time of Day NCOS for table DAYOWEEK. Only those fields that apply directly to Time of Day NCOS are

Time of Day NCOS (continued)

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

Datafilling table DAYOWEEK

Field	Subfield or refinement	Entry	Explanation and action
TODNAME		1- to 8-alphanumeric	Time of Day Name. This field specifies the 1- to 8-character alphanumeric time of day name. Enter NILTODNM or the time of day name (predefined in table TODHEAD).
DAY		MON, TUE, WED, THU, FRI, SAT, or SUN	Day. This field specifies the day of the week to which this entry applies. Enter MON, TUE, WED, THU, FRI, SAT, or SUN.
DAYTYPE		1- to 8-alphanumeric	Type of Day. This field specifies the 1- to 8-character alphanumeric type of day name that is assigned to the day of the week. Enter NILDAY or the type of day name (predefined in table DAYTYPES).

Datafill example for table DAYOWEEK

The following example shows sample datafill for table DAYOWEEK.

MAP display example for table DAYOWEEK

```
TODNAME      WEEKDAY
                                DAYTYPE
_____________________________________________________________
BNRTOD        MON
                                WEEKDAY
```

Datafilling table DAYOYEAR

Table DAYOYEAR (Day of Year) defines any special days of the year for the TOD system that override table DAYOWEEK.

The following table shows the datafill specific to Time of Day NCOS for table DAYOYEAR. Only those fields that apply directly to Time of Day NCOS are

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

Datafilling table DAYOYEAR

Field	Subfield or refinement	Entry	Explanation and action
TODNAME		1- to 8-alphanumeric	Time of Day Name. This field specifies the 1- to 8-character alphanumeric time of day name. Enter NILTODNM or the time of day name (predefined in table TODHEAD).
MONTH		JAN to DEC	Month. This field specifies the month for which this entry applies. Enter a month from JAN to DEC.
DAY		1 to 31	Day. This field specifies the day of the month for which this entry applies. Enter a value from 1 to 31.
DAYTYPE		1- to 8-alphanumeric or NILDAY	Type of Day. This field specifies the 1- to 8-character alphanumeric type of day name that is assigned to the day of the year. Enter NILDAY or the type of day name (predefined in table DAYTYPES).

Datafill example for table DAYOYEAR

The following example shows sample datafill for table DAYOYEAR.

MAP display example for table DAYOYEAR

```
TODNAME    MONTH    DAY        DAYTYPE
_________________________________________________________
BNRTOD     JAN      31         WEEKEND
```

Datafilling table SFWALARM

Table SFWALARM (Software Alarm) contains the data for system alarms. The information for table SFWALARM is datafilled by the system. Entries in this table cannot be added or deleted, although the operating company can change the existing entries. There are two entries in this table for the TOD system.

There are two entries required in table SFWALARM for the TOD system. Alarm TODSYS defines the actions to be taken by the alarm system when the TOD system shuts itself down. It is accompanied by an AUDT169 log that

Time of Day NCOS (continued)

indicates that the TOD system has been shut down. Alarm TODFEAT defines the action to be taken by the alarm system when the TOD system shuts down a TOD feature due to the trap threshold for that feature being exceeded. This is accompanied by an AUDT168 log indicating that the feature was disabled.

The following table shows the datafill specific to Time of Day NCOS for table SFWALARM. Only those fields that apply directly to Time of Day NCOS are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table SFWALARM

Field	Subfield or refinement	Entry	Explanation and action
FUNCTION		1- to 16-alphanumeric	Function. This field specifies the alarm function. Enter a 1- to 16-character alphanumeric name.
REPORT		Y or N	Report. This field specifies if an alarm report is logged. Enter Y or N.
ALM		CR, MF, MN, NA	Alarm. This field specifies the type of alarm activated. Enter CR for critical alarm, MF for major alarm, MN for minor alarm, or NA for no alarm.
LOGIC		see data schema	Logic. This field consists of subfields SDFUNCT, ALMGRP, ALMXFR, and CONTMARK.

Datafill example for table SFWALARM

The following example shows sample datafill for table SFWALARM.

MAP display example for table SFWALARM

```
FUNCTION
REPORT  ALM                                                LOCIG
_____________________________________________________________________
CRITSYS
N  NA (SUCFLRPF Y N) (PREFLRPF N N) (SUCFLRCR Y N)
      (PREFLRCR N N) (EXPILDMS N N) (MJXFR N Y) (CRALMVIS
                                                          N N)
       (CRVISLOOP N N) $
```

Translation verification tools

Time of Day NCOS does not use translation verification tools.

SERVORD

Time of Day NCOS does not use SERVORD.

Time of Day Routing

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS13 and up

Prerequisites

To operate, Time of Day Routing has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The Time of Day Routing feature allows for cost-effective use of facilities by allowing or denying route choices. The route choices are based on the time of day. The times can be set according to rate schedules of the carriers (public, network, or common carriers). The route choices are also based on the day of the week or the day of the year to account for weekend and holiday traffic.

Different time of day routing schemes can be implemented independently by the various customer groups on a single DMS-100 IBN switch. The limiting factor in implementing the Time of Day Routing feature is based on the amount of data store that the office has allocated to the feature.

Each time of day routing scheme can be designed to change the routing operations of the particular customer group as often as every minute. A maximum of 16 distinct routing patterns can be employed by a single time of day routing scheme.

Operation

The Time of Day Routing feature handles traffic in a manner very similar to the traffic handled by any other routing feature, except that the calls (traffic) are handled based on the time of day. Route choices can also be based on the day of the week or the day of the year to account for routing weekend and holiday traffic.

Translations table flow

Time of Day Routing does not affect translations table flow.

Limitations and restrictions

Time of Day Routing has no limitations or restrictions.

Interactions

The following paragraph describes the interactions between Time of Day Routing and other functionalities.

The Time of Day Routing feature interacts with the electronic switching network (ESN) and other networks, and all features that employ time-of-day routing restrictions.

Activation/deactivation by the end user

Time of Day Routing requires no activation or deactivation by the end user.

Billing

Time of Day Routing does not affect billing.

Station Message Detail Recording

Time of Day Routing does not affect Station Message Detail Recording.

Datafilling office parameters

Time of Day Routing does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement Time of Day Routing. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Time of Day Routing (Sheet 1 of 2)

Table	Purpose of table
IBNRTE	IBN Route. This table contains route lists identified by a route reference index number.
CUSTHEAD	Customer Group Head. This table lists the names assigned to the blocks of data in table IBNXLA that store the data for the translation of digits.
DAYTYPES	Type of Day. This table defines the names of all the DAYTYPES required in the Time Of Day (TOD) system.
TODHEAD	Time of Day Head. This table id the head table for the time of day. It defines how tables DAYOWEEK, DAYOYEAR, and TIMEDAY are used.

Time of Day Routing (continued)

Datafill tables required for Time of Day Routing (Sheet 2 of 2)

Table	Purpose of table
TIMEODAY	Time of Day. This table is used to define the Time Of Day (TOD) result for a given TOD system and DAYTYPE.
DAYOWEEK	Day of Week. This table is used to find the required Time Of Day (TOD) system for each day of the week.
DAYOYEAR	Day of Year. This table is used to define any special days of the year for the Time Of Day (TOD) system that override values in table DAYOWEEK
SFWALARM	Software Alarm. This table is datafilled by the system and contains the data for systems alarm.

Datafilling table IBNRTE

Table IBNRTE (IBN Route) contains route lists identified by a route reference index number. Table IBNRTE must be datafilled to define the route lists used by the Time of Day Routing feature.

The following table shows the datafill specific to Time of Day Routing for table IBNRTE. Only those fields that apply directly to Time of Day Routing 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
RTE		alphanumeric, blank	Route Reference Index. This field specifies the route reference index. If the record is the first in the route list, enter the route reference number that is assigned to the route list. Otherwise, leave the entry blank.
RTELIST		see subfields	Route List. This field consists of subfields IBNRTSEL, CONDITION, and CONDRTE.
	IBNRTSEL	CND	IBN Route Selector. This subfield specifies the route selector required for conditional routes. Enter CND.

Datafilling table IBNRTE (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	CONDITION	see data schema	Condition. This subfield consists of subfields CNDSEL, TODNAME, TIMES, COSMAP, CALLCHR, and SITE.
	CNDSEL	ALWAYS	Condition Selector. Enter ALWAYS when transfer is always required.

Datafill example for table IBNRTE

The following example shows sample datafill for table IBNRTE.

MAP display example for table IBNRTE

```
        RTE                                          RTELIST
 ____________________________________________________________
         2                          (CND  ALWAYS ST 255)$
```

Datafilling table DAYTYPES

Table DAYTYPES (Type of Day) defines the names of all the DAYTYPES required in the TOD system. A DAYTYPE must be entered here before it can be used in tables TODHEAD, DAYOWEEK, DAYOYEAR, and TIMEODAY.

The following table shows the datafill specific to Time of Day Routing for table DAYTYPES. Only those fields that apply directly to Time of Day Routing are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table DAYTYPES

Field	Subfield or refinement	Entry	Explanation and action
DAYTYPE		1- to 8-alphanumeric	Type of Day. This field specifies the 1- to 8-character alphanumeric name assigned to the type of day. Enter the type of day.

Datafill example for table DAYTYPES

The following example shows sample datafill for table DAYTYPES.

Time of Day Routing (continued)

MAP display example for table DAYTYPES

```
DAYTYPE
_______________________________________________
WEEKDAY
```

Datafilling table TODHEAD

Table TODHEAD (Time of Day Head) defines how tables DAYOWEEK, DAYOYEAR, and TIMEODAY are used for the customer group.

The following table shows the datafill specific to Time of Day Routing for table TODHEAD. Only those fields that apply directly to Time of Day Routing are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table TODHEAD

Field	Subfield or refinement	Entry	Explanation and action
DATA		see subfields	Data. This field consists of subfields TODTYPE and COSMAP.
	TODTYPE	NCOS	Time of Day Type. This subfield specifies the time of day. Enter NCOS
	COSMAP	1- to16-alphanumeric	Class of Service Mapping. This subfield specifies the Class of Service name assigned to TOD NCOS screening. This name must be assigned to the customer group in table CUSTHEAD with option TODNCOS. Enter the 1- to16-character alphanumeric name.

Datafill example for table TODHEAD

The following example shows sample datafill for table TODHEAD.

MAP display example for table TODHEAD

```
TODNAME          TODTYPE                          DAYTYPES
_______________________________________________________________
BNRTOD NCOS      BNRMAPTOD            (WEEKDAY) (WEEDEND)$
```

Datafilling table TIMEODAY

Table TIMEODAY (Time of Day) defines the TOD result for a given TOD system and DAYTYPE.

The following table shows the datafill specific to Time of Day Routing for table TIMEODAY. Only those fields that apply directly to Time of Day Routing are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table TIMEODAY

Field	Subfield or refinement	Entry	Explanation and action
TODTYPE		RTE	Time of Day Type. This field specifies the time of day type. Enter RTE.

Datafill example for table TIMEODAY

The following example shows sample datafill for table TIMEODAY.

MAP display example for table TIMEODAY

```
TODNAME   DAYTYPE    TIME                          DATA
_____________________________________________________________
BNRTOD   WEEKDAY    0  0                     BNRMAPTOD
```

Datafilling table DAYOWEEK

Table DAYOWEEK (Day of Week) defines the required TOD system for each day of the week.

The following table shows the datafill specific to Time of Day Routing for table DAYOWEEK. Only those fields that apply directly to Time of Day

Time of Day Routing (continued)

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

Datafilling table DAYOWEEK

Field	Subfield or refinement	Entry	Explanation and action
TODNAME		1- to 8-alphanumeric	Time of Day Name. This field specifies the 1- to 8-character alphanumeric time of day name. Enter NILTODNM or the time of day name (predefined in table TODHEAD).
DAY		MON, TUE, WED, THU, FRI, SAT, or SUN	Day. This field specifies the day of the week to which this entry applies. Enter MON, TUE, WED, THU, FRI, SAT, or SUN.
DAYTYPE		1- to 8-alphanumeric	Type of Day. This field specifies the 1- to 8-character alphanumeric type of day name that is assigned to the day of the week. Enter NILDAY or the type of day name (predefined in table DAYTYPES).

Datafill example for table DAYOWEEK

The following example shows sample datafill for table DAYOWEEK.

MAP display example for table DAYOWEEK

```
TODNAME    WEEKDAY
                                   DAYTYPE
_____________________________________________________________________
BNRTOD        MON
                                   WEEKDAY
```

Datafilling table DAYOYEAR

Table DAYOYEAR (Day of Year) defines any special days of the year for the TOD system that override table DAYOWEEK.

The following table shows the datafill specific to Time of Day Routing for table DAYOYEAR. Only those fields that apply directly to Time of Day

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

Datafilling table DAYOYEAR

Field	Subfield or refinement	Entry	Explanation and action
TODNAME		1- to 8-alphanumeric	Time of Day Name. This field specifies the 1- to 8-character alphanumeric time of day name. Enter NILTODNM or the time of day name (predefined in table TODHEAD).
MONTH		JAN to DEC	Month. This field specifies the month for which this entry applies. Enter a month from JAN to DEC.
DAY		1 to 31	Day. This field specifies the day of the month for which this entry applies. Enter a value from 1 to 31.
DAYTYPE		1- to 8-alphanumeric	Type of Day. This field specifies the 1- to 8-character alphanumeric type of day name that is assigned to the day of the year. Enter NILDAY or the type of day name (predefined in table DAYTYPES).

Datafill example for table DAYOYEAR

The following example shows sample datafill for table DAYOYEAR.

MAP display example for table DAYOYEAR

```
TODNAME   MONTH
                                DAY      DAYTYPE
_____________________________________________________________
BNRTOD     JAN
                                 31      WEEKEND
```

Datafilling table SFWALARM

Table SFWALARM (Software Alarm) contains the data for system alarms.

The information for table SFWALARM is prefilled by the system. Entries in this table cannot be added or deleted, although the existing entries can be changed by the operating company.

Time of Day Routing (end)

The following table shows the datafill specific to Time of Day Routing for table SFWALARM. Only those fields that apply directly to Time of Day Routing are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table SFWALARM

Field	Subfield or refinement	Entry	Explanation and action
FUNCTION		1- to 16-alphanumeric	Function. This field specifies the alarm function. Enter a 1- to 16-character alphanumeric name.
REPORT		Y or N	Report. This field specifies if an alarm report is logged. Enter Y or N.
ALM		CR, MF, MN, NA	Alarm. This field specifies the type of alarm activated. Enter CR for critical alarm, MF for major alarm, MN for minor alarm, or NA for no alarm.
LOGIC		see data schema	Logic. This field consists of subfields SDFUNCT, ALMGRP, ALMXFR, and CONTMARK.

Datafill example for table SFWALARM

The following example shows sample datafill for table SFWALARM.

MAP display example for table SFWALARM

```
FUNCTION
REPORT ALM                                                LOGIC
_____________________________________________________________________
CRITSYS
 N  NA  (SUCFLRPF Y N) (PREFLRPF N N) (SUCFLRCR Y N)
        (PREFLRCR N N) (EXPILDMS N N) (MJXFR N Y)
                                        (CRALMVIS  N N)
        (CRVISLOOP N N) $
```

Translation verification tools

Time of Day Routing does not use translation verification tools.

SERVORD

Time of Day Routing does not use SERVORD.

TVDS - II

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS23 and up

Prerequisites

To operate, TVDS - II has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

The TVDS - II feature subjectively verifies audible transmission quality on a specific trunk. TVDS - II enhances and restructures the original TVDS feature (F2727). This feature description does not compare the original and enhanced versions, but for convenience it uses the terms TVDS and TVDS II interchangeably to describe the entire feature as it exists for BCS23.

With Trunk Verification Designated Station (TVDS), the operating company determines if each trunk in a trunk group can be selected and if the trunk can subjectively meet audible transmission objectives. This feature allows specific trunks originating and terminating on a Meridian SL-100 PBX to be accessed. TVDS can be initiated from any directly terminated station (2500 sets or electronic telephone sets [ETS]) or from direct inward system access (DISA). TVDS can also be initiated from trunks datafilled as TVDS trunks in Table TVDSTRKS (TVDS Trunks).

Multiple customer group partitioning for TVDS trunk access is also provided through Table TVDSTRKS. A call can be tandemed from Meridian SL-100 to Meridian SL-100 using the TVDS feature to specify trunks over which the call is to be routed.

Operation

TVDS is activated when an authorized end user dials the TVDS access code. A series of prompt tones cue the end user to input a trunk group access code and a trunk member number. The end user is also prompted upon confirmation of an idle state for the desired trunk to request a particular station number or enter the TVDS access code for a distant switch. The trunk is seized without

TVDS - II (continued)

outpulsing if no entry is made at this prompt. End users can hang up at any time during a TVDS session to suspend feature operation.

> ***Note:*** TVDS may not be activated or deactivated once an end user places a call.

Tones are used extensively as indicators while TVDS is active. The prompt tone is either a special dial tone (three short bursts followed by a continuous tone) representing local activation of trunk verification or a simple dial tone when TVDS is invoked remotely. The TVDS error tone signifies feature deviation, such as a request for a nonexistent trunk group or a resource allocation failure.

Table TVDSTRKS restricts access to specified trunk groups by associating a numerical value with the common language location identifier (CLLI) of an authorized customer group. End users can only test a trunk for their customer group by using a three digit access code corresponding to the trunk group CLLI.

Translations table flow

TVDS - II does not affect translations table flow.

Limitations and restrictions

The following limitations and restrictions apply to TVDS - II:

- TVDS uses dual-tone multiple frequency (DTMF) signaling only.
- TVDS can only be originated from a 2500 set (or equivalent), from a Meridian SL-100 ETS, or by DISA.
- TVDS cannot be assigned as a feature key on an ETS.
- In order to access the TVDS feature or tandem through a distant switch, the end user must know the dialing plan for the distant switch.
- All line screening, customer group screening, and network management controls are ignored by TVDS.
- Billing and Station Message Detail Recording (SMDR) are not provided for TVDS.
- TVDS does not allow access to a reserved trunk.
- TVDS does not translate digits to outpulse.
- TVDS cannot be activated from an attendant queue.
- Random member selection is not supported.
- Last leg dropback is not supported.

Interactions

The following paragraphs describe the interactions between TVDS - II and other functionalities.

- ESN - Authorization Codes ESN - Authorization Codes (BV0783) can be used to change the network class of service (NCOS) associated with a line or trunk group to the TVDS NCOS. The end user enters an authorization code before the called number (for example, the TVDS access code). An authorization code is entered by dialing the authorization code function code followed by the desired authorization code.
- DISA DISA (BV0508) can be used to access the TVDS feature from a remote location. However, an NCOS is not assigned to DISA DNs and non-IBN trunk groups. If the DISA DN or non-IBN incoming trunk group does not require an authcode, the external NCOS for the customer group is used for the DISA call.
- Off-hook Queuing and Call Back Queuing (Basic) Off-hook Queuing (BV0507) for the specified trunk group is ignored. If the trunk is call processing busy or reserved when TVDS attempts to seize it, a busy tone is sent and no further testing can be performed. Call Back Queuing (Basic) (BV0542) is unavailable while TVDS is active, as the initial flash to activate CBQ is interpreted as a TVDS cancellation.

Once the TVDS feature is activated, no other feature should be invoked until the testing is completed or abandoned. A flash while TVDS is active cancels the feature.

Activation/deactivation by the end user

TVDS - II is activated by dialing the TVDS access code from Table IBNXLA (IBN Translation).

Billing

TVDS - II does not affect billing.

Station message detail recording

TVDS - II does not affect Station Message Detail Recording.

Datafilling office parameters

TVDS - II does not affect office parameters.

TVDS - II (continued)

Datafill sequence

The following table lists the tables that require datafill to implement TVDS - II. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for TVDS - II

Table	Purpose of table
XLANAME	List of Translator Names. This table stores the default data for each translator.
IBNXLA	IBN Translation. This table stores the data for the digit translation of calls from an IBN station, attendant console, or incoming side of a two-way IBN trunk group.
TVDSTRKS	TVDS Trunks. This table restricts access to specified trunk groups by associating a numerical value with the common language location identifier (CLLI) of an authorized customer group

Datafilling table XLANAME

Table XLANAME (List of Translator Names) stores the default data for each translator. When no access code is found in Table IBNXLA for a particular translator, default data from Table XLANAME is used. If there is no default data for the operating company client group translator, the treatment specified in field VACTRMT of Table CUSTHEAD is used.

The following table shows the datafill specific to TVDS - II for table XLANAME. Only those fields that apply directly to TVDS - II are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table XLANAME

Field	Subfield or refinement	Entry	Explanation and action
XLANAME		alphanumeric	Translator name. This field specifies the 1- to 8-character alphanumeric name that is assigned to the customer, feature, or preliminary translator. Enter the translator name.

Datafill example for table XLANAME

The following example shows sample datafill for table XLANAME.

MAP display example for table XLANAME

```
XLANAME
MAXDIG                                                  DEFAULT
_____________________________________________________________________
IBNTVD2
   9                                                       $
```

Datafilling table IBNXLA

Table IBNXLA (IBN Translation) stores the data for the digit translation of calls from an IBN station, attendant console, or incoming side of a two-way IBN trunk group.

The following table shows the datafill specific to TVDS - II for table IBNXLA. Only those fields that apply directly to TVDS - II 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		see subfields	Key This field consists of subfields XLANAME and DGLIDX.
	XLANAME	alphanumeric	Translator Name. This subfield specifies the name that is assigned to the translator. Enter the 1- to 8-character name.
	DGLIDX	1- 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 consists of subfield TRSEL.
	TRSEL	FEAT	Translations Selector. This subfield specifies the translations selector to be used. Enter FEAT.
If TRSEL is set to FEAT, subfields ACR, SMDR, VCDR, and FEATURE require datafill.			
	ACR	Y or N	Account Code Entry. This subfield specifies whether an account code is required. Enter Y or N.
	SMDR	Y or N	Station Message Detail Recording. This subfield specifies whether SMDR is required. Enter Y or N.

TVDS - II (continued)

Datafilling table IBNXLA (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	VCDR	Y or N	Variable Call Detail Recording. This subfield specifies whether VCDR is required. Enter Y or N.
	FEATURE	TVDS	Feature. This subfield specifies the feature assigned to a line. Enter TVDS.

Datafill example for table IBNXLA

The following example shows sample datafill for table IBNXLA.

MAP display example for table IBNXLA

```
              KEY
                                                    RESULT
 ____________________________________________________________________
   NTIXLA    123                          FEAT N Y N TVDS
```

Datafilling table TVDSTRKS

Table TVDSTRKS (TVDS Trunks) restricts access to specified trunk groups by associating a numerical value with the common language location identifier (CLLI) of an authorized customer group.

The following table shows the datafill specific to TVDS - II for table TVDSTRKS. Only those fields that apply directly to TVDS - II are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table TVDSTRKS (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
KEYINF		see subfields	TVDS Key. This field consists of subfields CUST_GROUP and CLLI.
	CUST_ GROUP	alphanumeric or ALL	Customer Group. This subfield specifies the 1- to 16-character alphanumeric customer group name from Table CUSTENG (Customer Group Engineering). Enter the customer group name or enter ALL for all customer groups.

Datafilling table TVDSTRKS (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	CLLI	alphanumeric	Common Language Location Identifier. This subfield specifies the CLLI from Table CLLI.
ACCESS		0 to 999	Access Code. This field specifies the access code that corresponds to the CLLI. Enter a value from 0 to 999.

Datafill example for table TVDSTRKS

The following example shows sample datafill for table TVDSTRKS.

MAP display example for table TVDSTRKS

```
                          KEYINF              ACCESS
_____________________________________________________________
        COREREGA          IBNTRKOUT           119
```

Translation verification tools

TVDS - II does not use translation verification tools.

SERVORD

TVDS - II does not use SERVORD.

UCD on EBS and UCD SD Point

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS26 and up

Prerequisites

To operate, UCD on EBS and UCD SD Point has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC MBS Minimum, MDC00007

Description

UCD on EBS and UCD SD Point extends and improves the Uniform Call Distribution (UCD) feature in the following ways:

- extends the availability of UCD to Meridian business sets (MBS) as well as 500/2500 sets
- extends the availability of the simplified message desk interface (SMDI) to MBSs as well as 500/2500 sets
- provides single-stroke login to specified UCD groups through the assignment of one or more UCD login (UCDLG) keys on an MBS
- provides the capability to distinguish UCD calls from non-UCD calls through the assignment of the distinctive ringing option
- provides UCD login and logout monitoring through the optional assignment of signal distribution (SD) points on an individual set basis

Operation

UCD on EBS and UCD SD Point allows MBS end users to log into UCD groups. This capability is particularly useful during busy periods when additional agents are needed to answer incoming calls. By allowing calls to be distributed to MBSs as well as to 500/2500 sets, more end users can access UCD with their existing sets, and call coverage is improved.

MBS end users have the convenience of logging into UCD groups by pressing a single key. The keys on an MBS can be assigned as UCDLG keys. Each UCDLG key corresponds to a predefined UCD group. Although more than

one key can be defined as UCDLG keys, the end user can log into only one UCD group at a time.

UCD on EBS and UCD SD Point allows supervisors to accurately monitor the login and logout state of agents. Each set is monitored by assigning an SD point to the line equipment number (LEN) of the set. Each time an agent logs in or out, the SD point signals the agent's external monitoring device of a status change. The SD points can be assigned through either table control or the Service Order System (SERVORD).

The distinctive ringing option in Table CUSTSTN (Customer Group Station Option) enables an MBS end user to distinguish between UCD and non-UCD calls by providing a distinctive ring for UCD calls. To have this capability, the MBS end user must subscribe to distinctive ringing and assign it at the customer group level.

Option UCD, currently available for 500/2500 sets, can be assigned to a directory number (DN) on an MBS. An MBS end user can activate UCD and become eligible to receive UCD calls. While logged into a UCD group, an MBS is treated the same as a 500/2500 set, that is, the current rules for UCD groups, incoming call queues, agent queues, and so on, apply.

An MBS that has been assigned a UCD DN can also have SMDI assigned to the set. An MBS end user can log into the specified SMDI UCD group and be eligible to receive SMDI UCD calls.

User interface

UCD on EBS and UCD SD Point does not affect user interface.

Translations table flow

The UCD on EBS and UCD SD Point translations tables are described in the following list:

- Table CUSTSTN contains the station options assigned to each customer group.
- Table KSETLINE lists the DNs assigned to each key on an MBS.
- Table KSETFEAT lists the line features assigned to an MBS listed in Table KSETLINE. This table is datafilled through SERVORD when features are assigned to the line.

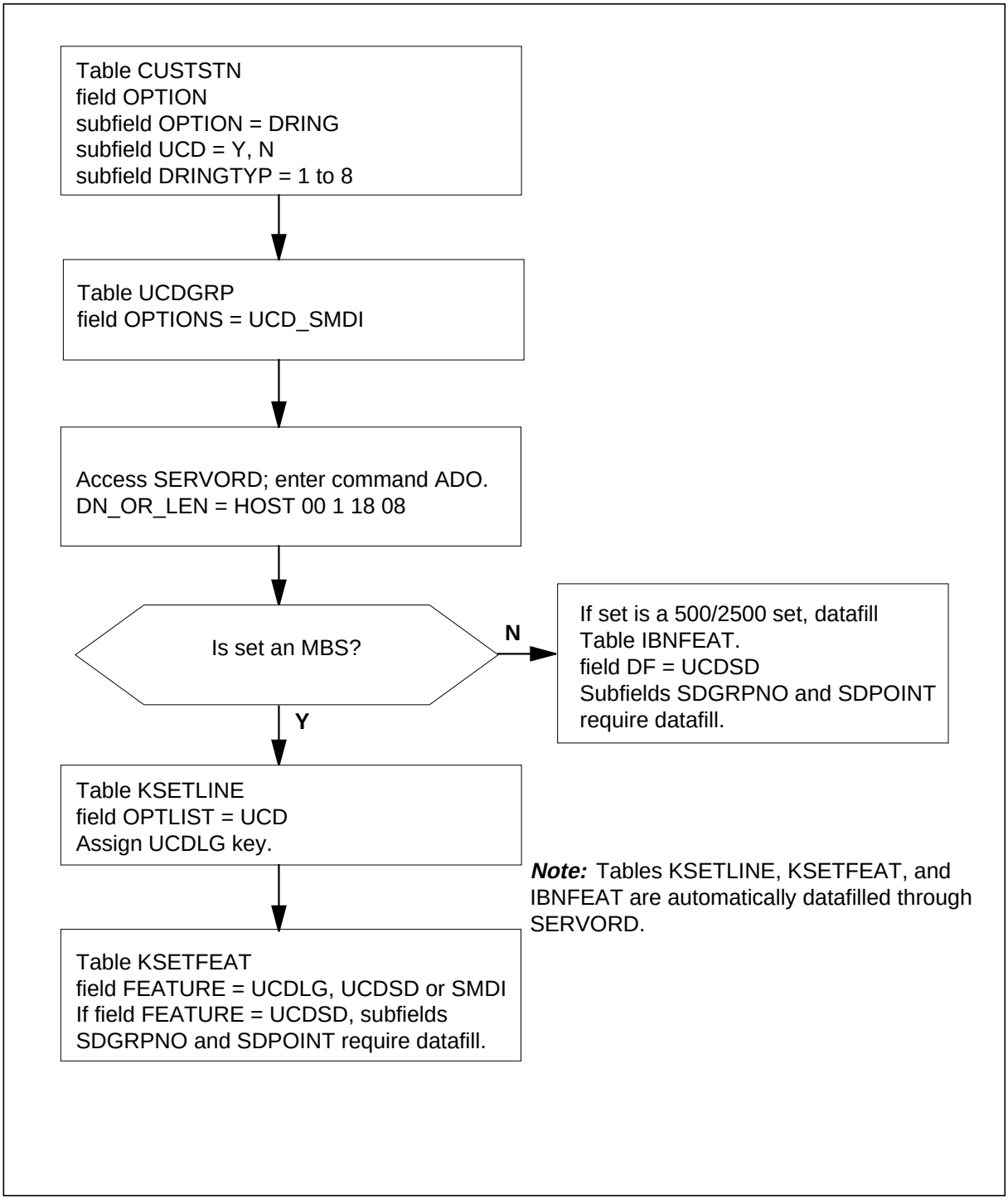
UCD on EBS and UCD SD Point (continued)

- Table IBNFEAT lists the features assigned to an MBS listed in Table IBNLINES (IBN Line Assignment). This table is datafilled through SERVORD when features are assigned to the line.
- Table UCDGRP contains the primary directory number (PDN) and up to four secondary DNs for each UCD group. Incoming calls terminating on any of the DNs in a UCD group are offered to an agent who has been idle for the longest period of time. If no agent is idle, calls are queued (based on priority) into an appropriate call queue for the UCD group.

The UCD on EBS and UCD SD Point translation process is shown in the flowchart that follows.

UCD on EBS and UCD SD Point (continued)

Table flow for activating UCD on EBS and UCD SD Point



UCD on EBS and UCD SD Point (continued)

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

Datafill example for UCD on EBS and UCD SD Point

Datafill table	Example data
CUSTSTN	MDCGRP1 DRING DRING Y 3 N ALL 3 N Y N N Y 4 N
UCDGRP	UCDGRP1 N MDCGRP1 14 OFRT 1000 OFRT 1000 1 5 N 2 5 10 5 (UCD_SMDI SMD11 63 (CLASSA) (CLASSB) (CLASSC) CLASSP) $) $
KSETLINE	HOST 00 1 18 08 1 DN Y 7222525 BNRCH 0 10 613 UCD $
KSETFEAT	HOST 00 1 18 08 3 UCDSD UCDSD 2 1
IBNFEAT	HOST 00 1 18 08 UCDSD 2 1

Limitations and restrictions

The following limitations and restrictions apply to UCD on EBS and UCD SD Point:

- Option UCD can be assigned to only one DN for each MBS at any time.
- The UCDLG key can be assigned only to a station that is assigned option UCD.
- Option UCD must be assigned to a station prior to the assignment of either option UCDSD or option UCDLG.
- The UCDLG key cannot be assigned to an MBS station if the UCD group is not defined in Table UCDGRP (Uniform Call Distribution Group) or does not belong to the same customer group as the MBS DN that is assigned option UCD.
- An SD point cannot be assigned to a UCD station if the SD group is not defined in Table SDGRP (Signal Distributor Group).
- Access to a UCD group is restricted to only those MBS end users who have an MBS DN that is assigned option UCD and belongs to the same customer group as the UCD group.
- Although more than one key can be defined as a UCDLG key, the agent can log into only one UCD group at a time.
- If an agent uses the UCD key to log into a UCD group that has an associated UCDLG key, the UCD login LCD does not light. If an agent uses the UCD key to log out of a UCD group that was previously logged into with the UCDLG key, the UCD login LCD goes off.
- If an agent is engaged in a non-UCD call originating from or terminating on the DN key that is assigned option UCD, the set is considered to be in

call processing busy state by the UCD feature. The agent position is removed from the queue of available agents and is requeued at the end of the queue only when the set becomes idle.

- The number of UCD agents that can be monitored by the SD points is limited to the number of SD points not utilized by other switch operations.
- Option UCD is incompatible with hunt groups and MADN groups.
- Per Call Screening (PCS) fails to a UCD group

Interactions

The following paragraphs describe the interactions between UCD on EBS and UCD SD Point and other functionalities.

- *Attendant Camp-On* An attendant cannot camp on to a UCD DN. If this is attempted, the call is queued for the next available agent.
- *Call Forwarding* If an MBS end user has activated Call Forwarding (CFX), UCD calls are not forwarded. They are queued for the next available agent.
- *Call Waiting* If an MBS end user has activated Call Waiting (CWT), UCD calls do not wait. They are queued for the next available agent.
- *Distinctive Ringing* A UCD agent can determine by the ringing pattern activated by the Distinctive Ringing feature whether a call is UCD and answer it accordingly.
- *EBS as a Message Center* UCD calls terminating on an MBS that has the EBS as a Message Center feature assigned cannot activate the feature. The feature is activated only upon termination of non-UCD calls.

Activation/deactivation by the end user

There are two methods of activating and deactivating UCD from an MBS: dialed-access activation/deactivation and single-stroke activation/deactivation. Single-stroke activation/deactivation is available to MBSs assigned option UCD in Table KSETLINE, in addition to dialed-access activation/deactivation, available to 500/2500 sets.

- Dialed-access activation/deactivationDial-access activation/deactivation uses a UCDLG key for UCD login and logout. A UCDLG key is any MBS

UCD on EBS and UCD SD Point (continued)

DN key that has a UCD group assigned to it. Only one UCD key is permitted for each MBS.

Activation/deactivation of UCD on EBS and UCD SD Point by the end user (dialed-access method)

At your telephone

1 To log into a UCD group, the agent presses a UCDLG key on an MBS to go off-hook and dials the UCD activation access code.

Response:

If UCD is already active, the agent receives a confirmation tone; otherwise, a special dial tone is heard that prompts the agent to enter a valid UCD DN.

If activation is successful, a confirmation tone is returned, and UCD calls are permitted to terminate on the UCD key of an MBS.

If the activation is unsuccessful, reorder treatment is returned.

2 To log out of a UCD group and deactivate UCD, the agent first presses the UCDLG key, then dials the deactivation access code.

Response:

A confirmation tone is returned, and the MBS is no longer permitted to receive UCD calls.

- Single-stroke activation/deactivation: Single-stroke activation/deactivation uses a UCDLG key for UCD login and logout. More than one UCDLG key can be assigned to each MBS, but each UCDLG key must have an associated liquid crystal display (LCD). UCDLG keys provide automatic login into predefined UCD groups.

Activation/deactivation of UCD on EBS and UCD SD Point by the end user (single-stroke method)

At your telephone

1 To log into a UCD group, the agent presses an assigned UCDLG key.

Response:

If action is successful, the associated UCDLG LCD lights, and UCD calls are permitted to terminate on the UCD key of an MBS.

If activation is unsuccessful, the UCDLG LCD does not light.

2 To log out of a UCD group and deactivate UCD, the agent again presses the UCDLG key.

Response:

UCD is deactivated, and the UCDLG LCD light goes off.

Note: Because single-stroke activation/deactivation requires the assignment of a UCD key to ensure proper termination of incoming UCD calls, the agent can also log in and log out of undefined UCD groups by using the dialed-access activation/deactivation method.

Billing

UCD on EBS and UCD SD Point does not affect billing.

Station Message Detail Recording

UCD on EBS and UCD SD Point does not affect Station Message Detail Recording.

Datafilling office parameters

UCD on EBS and UCD SD Point does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement UCD on EBS and UCD SD Point. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for UCD on EBS and UCD SD Point

Table	Purpose of table
CUSTSTN	Customer Group Station Option
UCDGRP	Uniform Call Distribution Group
KSETLINE (Note)	Business Set and Data Unit Line Assignment
KSETFEAT (Note)	Business Set and Data Unit Feature
IBNFEAT (Note)	IBN Line Feature
Note: This table is datafilled through SERVORD; therefore, no datafill procedure is provided.	

Datafilling table CUSTSTN

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

The following table shows the datafill specific to UCD on EBS and UCD SD Point for table CUSTSTN. Only those fields that apply directly to UCD on

UCD on EBS and UCD SD Point (continued)

EBS and UCD SD Point are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table CUSTSTN (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
OPTION			Option: This field consists of subfield OPTION.
	OPTION		Option: This subfield specifies the option. Enter DRING for the distinctive ringing option.
If OPTION is set to DRING, subfields INTRNL, EXTRNL, TRKS, GIC, RECALL, UCD, REST, ACD, and MAKECALL require datafill.			
	INTRNL		Internal: This subfield specifies whether intragroup calls are eligible for distinctive ringing. Enter Y or N.
If INTRNL is set to Y, subfield DRINGTYP requires datafill.			
	DRINGTYP		Distinctive Ringing Type: This subfield specifies the type of ring code. Enter a value from 1 to 8.
	EXTRNL		External: This subfield specifies whether intergroup calls are eligible for distinctive ringing. Enter Y or N.
If EXTRNL is set to Y, subfield DRINGTYP requires datafill.			
	DRINGTYP		Distinctive Ringing Type: This subfield specifies the type of ring code. Enter a value from 1 to 8.
	TRKS		Trunks: This subfield specifies which IBN trunks are subject to distinctive ringing. Enter NO if no IBN trunks owned by the customer group are subject to distinctive ringing. Enter SEL if selected IBN trunks owned by the customer group are subject to distinctive ringing. Enter ALL if all IBN trunks owned by the customer group are subject to distinctive ringing.
If TRKS is set to SEL or ALL, subfield DRINGTYP requires datafill.			
	DRINGTYP		Distinctive Ringing Type: This subfield specifies the type of ring code. Enter a value from 1 to 8.

UCD on EBS and UCD SD Point (continued)

Datafilling table CUSTSTN (Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	GIC		Group Intercom: This subfield specifies whether GIC calls are eligible for distinctive ringing. Enter Y or N.
If GIC is set to Y, subfield DRINGTYP requires datafill.			
	DRINGTYP		Distinctive Ringing Type: This subfield specifies the type of ring code. Enter a value from 1 to 8.
	RECALL		Recall: This subfield specifies whether recall calls are eligible for distinctive ringing. Enter Y.
If RECALL is set to Y, subfield DRINGTYP requires datafill.			
	DRINGTYP		Distinctive Ringing Type: This subfield specifies the type of ring code. Enter a value from 1 to 8.
	UCD		Uniform Call Distribution: This subfield specifies whether UCD calls are eligible for distinctive ringing. Enter Y or N.
If UCD is set to Y, subfield DRINGTYP requires datafill.			
	DRINGTYP		Distinctive Ringing Type: This subfield specifies the type of ring code. Enter a value from 1 to 8.
	REST		Remainder: This subfield specifies whether all other calls are eligible for distinctive ringing. These calls include those from POTS lines, POTS trunks, and MDC trunks that are not owned by the customer group. Enter Y or N.
If REST is set to Y, subfield DRINGTYP requires datafill.			
	DRINGTYP		Distinctive Ringing Type: This subfield specifies the type of ring code. Enter a value from 1 to 8.
	ACD		Automatic Call Distribution: This subfield specifies whether ACD calls are eligible for distinctive ringing. Enter Y or N.
If ACD is set to Y, subfield DRINGTYP requires datafill.			
	DRINGTYP		Distinctive Ringing Type: This subfield specifies the type of ring code. Enter a value from 1 to 8.

UCD on EBS and UCD SD Point (continued)

Datafilling table CUSTSTN (Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	MAKECALL		Make Outbound Call: This subfield specifies whether outbound ACD calls are eligible for distinctive ringing. Enter Y or N.
If MAKECALL is set to Y, subfield DRINGTYP requires datafill.			
	DRINGTYP		Distinctive Ringing Type: This subfield specifies the type of ring code. Enter a value from 1 to 8.

Datafill example for table CUSTSTN

The following example shows sample datafill for table CUSTSTN.

MAP display example for table CUSTSTN

```
CUSTNAME    OPTNAME                    OPTION
____________________________________________________________
MDCGRP1     DRING    DRING  Y 3 N ALL 3 N  Y  N  N  Y
4  N
```

Datafilling table UCDGRP

Table UCDGRP (Uniform Call Distribution Group) contains the PDN and up to four secondary DNs for each UCD group. Incoming calls terminating on any of the DNs in a UCD group are offered to an agent who has been idle for the longest period of time. If no agent is idle, calls are queued (based on priority) into an appropriate call queue for the UCD group. Table UCDGRP assigns option UCD_SMDI to an MBS and allows option UCD_SMDI to accept a maximum of four different message waiting classes of service (MCOS) supported by an SMDI UCD group.

The following table shows the datafill specific to UCD on EBS and UCD SD Point for table UCDGRP. Only those fields that apply directly to UCD on EBS

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

Datafilling table UCDGRP

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS			Options: This field specifies the options and associated subfields that are assigned to the UCD group. Enter UCD_SMDI.
If OPTIONS is set to UCD_SMDI, subfields SMDI_LINK, SMDI_DESK_NO, and MCOS_LIST require datafill.			
	SMDI_LINK		Terminal Designation: This subfield specifies the terminal designation defined in Table TERMDEV (Terminal Device). Enter the alphanumeric terminal designation.
	SMDI_DESK_NO		SMDI Desk Number: This subfield specifies the SMDI desk number. Enter a value from 1 to 63.
	MCOS_LIST		Message Class of Service: This subfield specifies the MCOS assigned to the UCD group. Enter up to four MCOSs from ClassA to ClassP.

Datafill example for table UCDGRP

The following example shows sample datafill for table UCDGRP.

MAP display example for table UCDGRP

```
 UCDNAME   ACD  CUSTGRP  UCDRNGTH  THROUTE   NSROUTE
 PRIOPRO MAXPOS DBG DEFPRIO RLSCNT MAXWAIT MAXCQSIZ
 OPTIONS
_____________________________________________________
UCDGRP1   N   MDCGRP1    10     OFRT 1000   OFRT 1000
   1        5     N     2      5     10       5
  (UCD_SMDI SMD11 63 (CLASSA) (CLASSB) (CLASSC)
(CLASSP) $) $
```

Translation verification tools

UCD on EBS and UCD SD Point does not use translation verification tools.

UCD on EBS and UCD SD Point (continued)

SERVORD

UCD on EBS and UCD SD Point introduces line service options UCDSD and UCDLG as valid input for the OPTION prompt of the ADO (add option) and DEO (delete option) commands. In addition, existing options UCD and SMDI are now supported for MBSs. Option UCD must be assigned prior to the assignment of either option UCDSD or option UCDLG.

Because UCD on EBS and UCD SD Point extends UCD to MBSs, UCD is now incompatible with the following options:

- AAK
- ACD
- CAG
- CLSUP

Because UCD on EBS and UCD SD Point extends UCDSD to MBSs, UCDSD is now incompatible with the following options:

- MDN
- DTM
- AUL
- DNH
- DLH
- MLH
- RMB
- SHU
- BNN
- PRH
- ACD
- PBL
- CAG
- AAK
- BCLID
- CLSUP

UCD on EBS and UCD SD Point (continued)

SERVORD limitations and restrictions

UCD on EBS and UCD SD Point has no SERVORD limitations and restrictions.

SERVORD prompts

The following table shows the SERVORD prompts used to assign UCD on EBS and UCD SD Point to an MBS.

SERVORD prompts for UCD on EBS and UCD SD Point

Prompt	Valid input	Explanation
DN_OR_LEN	7-digit DN or LEN	Specifies the 7-digit DN or LEN of the line to be changed. Enter the DN or LEN.
SDGRPNO	0 to 511	Indicates the signal distributor group number. Enter a value from 0 to 511.
SDPOINT	0 to 6	Indicates the signal distributor point. Enter a value from 0 to 6.
OPTKEY	1 to 69	Indicates the key on an MBS to which an option is assigned. Enter a value from 1 to 69.
OPTION	UCDLG, UCDSD	Indicates the name of the option. Enter UCDLG or UCDSD.
UCDGRP	16-character vector	Indicates the name of the UCD group. Enter a name of up to 16 alphanumeric characters.
Note: Table KSETFEAT, KSETLINE, or IBNFEAT is automatically datafilled when UCD on EBS and UCD SD Point is assigned using SERVORD.		

SERVORD example for adding UCD on EBS and UCD SD Point

The following SERVORD example shows how UCD on EBS and UCD SD Point is added to an MBS using the ADO command.

UCD on EBS and UCD SD Point (continued)

SERVORD example for UCD on EBS and UCD SD Point in prompt mode

```
SO:
>ADO
SONUMBER:  NOW  92  1 1 AM
$
DN_OR_LEN:
>HOST 00 1 18 08
OPTKEY:
>1
OPTION:
>UCDSD
SDGRPNO:
>2
SDPOINT:
>1
OPTKEY:
>$
```

SERVORD example for UCD on EBS and UCD SD Point in no-prompt mode

```
>ADO  $  HOST 00 1 18 08  1  UCDSD  2  1  $
```

The following service order example shows how option UCDLG is added to an MBS using the ADO command.

SERVORD example for UCD on EBS and UCD SD Point in prompt mode

```
SO:
>ADO
SONUMBER:  NOW  92  1 1 AM
>$
DN_OR_LEN:
>HOST 00 1 18 08
OPTKEY:
>3
OPTION:
>UCDLG
UCDGRP:
>UCDGRP1
OPTKEY:
>$
```

UCD on EBS and UCD SD Point (end)

SERVORD example for UCD on EBS and UCD SD Point in no-prompt mode

```
>ADO  $  HOST 00 1 18 08  3  UCDLG  UCDGRP1  $
```

VFG MDR Suppression

Ordering codes

Functional group ordering code: AMA00001

Functionality ordering code: AMA00006

Release applicability

NA013 introduced the VFG MDR Suppression feature.

Requirements

To operate, the VFG MDR Suppression feature requires the feature MDR Data in the AMA Stream, MDC00009.

Description

This feature avoids double billing caused when:

- A Centrex group has option MDRRAO (message detail recording revenue accounting office) assigned in table CUSTSMDR and
- a call routes or overflows to a virtual facility group (VFG) and
- a call code 159 message detail record is written, and followed by billing.

The feature allows suppression of message detail records to avoid double billing. To use the feature for a VFG, datafill option NOMDR in table VIRTGRPS. Incoming POTS and IBN VFGs can use the NOMDR option.

Operation

If a call is terminating to a VFG and:

- the NOMDR option is present for the VFG and
- a call code 159 record is going to be produced, this feature discards the call code 159 record and any appended module.

If either of these checks do not pass, normal billing continues.

Translations table flow

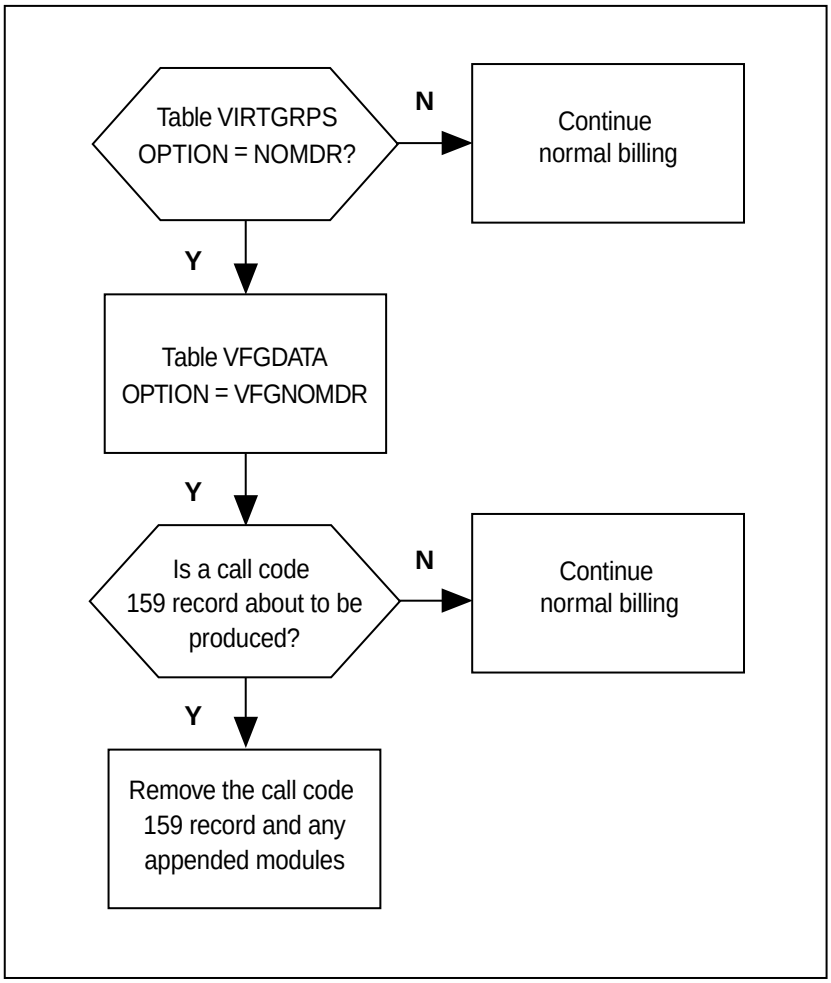
The list that follows includes the VFG MDR Suppression translations tables:

- Table VIRTGRPS is a VFG Table. A VFG helps eliminate loop-around trunks by using software to simulate the trunk. The table datafill describes several options that can be assigned to a VFG.
- Table VFGDATA is a VFG Table. Each entry in VFGDATA contains the data for one end of a VFG.

VFG MDR Suppression (continued)

The flowchart that follows shows the VFG MDR Suppression translations process.

Table flow for VFG MDR Suppression



The table that follows lists the datafill content used in the flowchart.

Datafill example for VFG MDR Suppression

Datafill table	Example data
VIRTGRPS	DDPVFG SIZE 2 POTS N XLA1 RATE1 1 N (NOMDR)$
VFGDATA	DDPVFG POTSVI

VFG MDR Suppression (continued)

Limitations and restrictions

The VFG MDR Suppression feature does not work for an E911 VFG.

Interactions

The VFG MDR Suppression feature does not interact with other functionalities.

Activation and deactivation by the user

The VFG MDR Suppression feature does not require activation or deactivation by the user.

Billing

When activated, the VFG MDR Suppression feature discards the Bellcore format call code 159 message detail record and any attached module codes.

Station Message Detail Recording

The VFG MDR Suppression feature does not require Station Message Detail Recording.

Office parameters used by VFG MDR Suppression

The VFG MDR Suppression feature does not generate office parameters.

Datafill sequence

The table that follows lists the tables that require datafill to put the VFG MDR Suppression feature into operation.

Datafill requirements for VFG MDR Suppression

Table	Purpose of table
VIRTGRPS	Table VIRTGRPS contains the options that can be assigned to a VFG.

Datafill related to VFG MDR Suppression for table VIRTGRPS

The table that follows provides the datafill related to the VFG MDR Suppression feature for table VIRTGRPS. This table includes only those fields that apply directly to VFG MDR Suppression.

Datafill related to table VIRTGRPS

Field	Subfield	Entry	Explanation and action
OPTIONS	OPTION	NOMDR	Option NOMDR allows message detail records to be suppressed.
Note: The NOMDR option can be added to incoming POTS and IBN VFGs. E911 VFGs cannot use the NOMDR option.			

Datafill example for table VIRTGRPS

The MAP example that follows shows sample datafill for table VIRTGRPS.

MAP example for table VIRTGRPS

```
TABLE VIRTGRPS
   DDPFG SIZE 2 POTS N XLA1 RATE1 1 N (NOMDR)$
```

Error messages for table VIRTGRPS

The error messages that follow apply to table VIRTGRPS.

Error messages for table VIRTGRPS

Error message	Explanation and action
The NOMDR option is for POTS and IBN VFGs only.	E911 VFGs cannot use the NOMDR option.

Translation verification tools

The VFG MDR Suppression feature does not use translation verification tools.

SERVORD

The VFG MDR Suppression feature does not use the Service Order System (SERVORD).

VMX Interface

Ordering codes

Functional group ordering code: MDC00009

Functionality ordering code: not applicable

Release applicability

BCS18 and up

Prerequisites

To operate, VMX Interface requires BAS Generic, BAS00003.

Description

VMX Interface allows a DMS-100 switch to communicate with a voice message exchange (VMX).

The VMX provides a voice message store-and-forward service. A caller leaves a spoken message, which is digitized and stored on disk. An end user retrieves a message, plays it back, and hears the message in the caller's own voice.

End users can forward and transfer calls to the VMX. The VMX can also signal an end user that a message is waiting.

Operation

The VMX communicates directly with the DMS-100 switch using four-wire E&M analog trunks with wink start signaling. Two types of command codes are used to communicate:

- Call connect command codes (used to interconnect the DMS-100 switch and the VMX)
- VMX command codes (dial and special)

Call connect command codes

DMS-100 switch to VMX functions allow the following:

- The VMX end user can access and manipulate messages in a “mailbox."
- The VMX end user can use the Call Forward Universal (CFU) feature to forward calls to a voice mailbox (the VMX call answering feature).
- Anyone can leave a voice message for a VMX end user at the combination message desk.

End users and callers activate VMX features with two-digit dial commands and three-digit special dial commands. The dial commands are used to send and receive messages and invoke other standard VMX functions. The special commands are used to select more VMX features.

A location code identifies end user calls to a VMX through an electronic switched network (ESN) or a stand-alone DMS-100 environment. An end user can view a VMX as a remote location in an ESN network or remote to a stand-alone DMS-100 switch. The desired DMS-100 switch to VMX function is invoked by using a four-digit extension number.

VMX command codes

VMX to DMS-100 switch functions allow the following:

- The VMX can instruct the DMS-100 switch to turn on an end user's message waiting indicator.
- The VMX can instruct the DMS-100 switch to turn off an end user's message waiting indicator.

Each VMX requires either three location codes or one location code and two pseudo-location codes in the DMS-100 switch database. These codes are used to make

- direct calls to the VMX message desk or a VMX voice mailbox. These calls must use a standard location code.
- calls forwarded to a VMX voice mailbox (the VMX call answering feature). These calls can use a standard location code or a pseudo-location code.
- VMX-to-VMX message transfer (the Voice Message Exchange (VMX) Interface feature). These calls use a standard location code or a pseudo-location code.

Translations table flow

VMX Interface does not affect translations table flow.

Limitations and restrictions

The following limitations and restrictions apply to VMX Interface:

- The Station Message Waiting feature must be present in the load.
- A VMX end user can make and receive on-net calls.
- A VMX end user can use message waiting and call request.

VMX Interface (continued)

Interactions

The following paragraphs describe the interactions between VMX Interface and other functionalities.

- Attendant and Station Message Waiting

  The VMX MWI uses the same MWI as the Attendant and Station Message Waiting (message waiting lamp on an MBS or link phone, or stuttered dial tone on a 500/2500 set). Therefore, the end user cannot know which source to query for messages. The call request retrieve code cannot be used to retrieve messages from a VMX. If only the VMX has set MWI on, an end user receives a reorder tone when this code is dialed.

- Call Forwarding

  Call Forwarding (CFW) works the same with a VMX as without, and an end user can forward calls directly to his or her mailbox or to the VMX message desk. CFW requires that the DMS-100 switch manipulate digits differently before transmitting them to the VMX. The DMS-100 switch outpulses only three-digit command codes.

- Call Transfer/Three-Way Calling

  With these features, a call can be transferred to or conferenced with a VMX end user's voice mailbox or the VMX message desk. Transfer to an end user's voice mailbox is not recommended because once access is gained, the caller has full access to the end user's mailbox and VMX privileges.

- Speed Calling and Automatic Dialing

  Any VMX DN can be programmed to speed call or dial automatically. The end user's userID should not append on the VMX DN.

- Night Service

  The VMX message desk DN can serve as the night service number. The VMX prompts the caller to state the recipient's name and to leave a message.

- Hunt Groups and Multiple Access Directory Number

  If a VMX tries to deliver a message and the end user is a member of a hunt group or multiple appearance directory number (MADN) group, the message goes to anyone who answers the call. If the VMX makes an MWI call to an end user who is a hunt group or MADN group member, the message waiting indication goes first to the pilot number and then to the primary number.

- Make Set Busy

MWI activation or deactivation works whether the Make Set Busy (MSB) feature is active or not.

- Attendant Console

  An attendant cannot be a VMX end user because the attendant console (AC) does not have a DTMF keypad. The attendant can leave messages at the VMX message desk and can transfer end users to the VMX so they can access their mailboxes themselves.

Activation/deactivation by the end user

End users originate calls to a VMX, and the VMX originates calls to end users.

End user originated calls

End users use a VMX by dialing the network access code and then seven digits (a VMX location code and either the VMX access directory number [DN] or the VMX message desk DN).

Direct calls to the VMX combination message desk

The VMX combination message desk feature allows anyone to leave a voice message for a VMX end user. The message desk is normally reached through call transfer/three-way calling by a message center operator.

Once connected to the message desk, the VMX prompts a caller to state the name of the end user and leave a message. If callers know the end user's voice mailbox number (a location code plus station number), they can call it directly instead of speaking to the message desk attendant. This sends the message directly to the end user's mailbox. Otherwise, the caller identifies the end user by name, and the message enters a message desk queue. Then, the VMX message desk operator scans the queue and redirects messages to each end user's mailbox.

Once connected, the VMX prompts the caller to state the name of the recipient and leave a message.

Direct calls to VMX mailbox

To access a VMX mailbox, an end user must dial a VMX end user access DN in the following format, where CCC is the VMX end user access command code, and X is any digit from 0 to 9:

Network access code + VMX location code + XCCC

Once connected, the VMX prompts the end user to enter a VMX userID. The end user is told the number of messages in the mailbox and is given instructions for using VMX features.

VMX Interface (continued)

To access the VMX combination message desk, the end user dials the VMX message desk DN. This DN can also be used to call forward to the combination message desk in the following format:

Network access code + VMX location code + XCCCD

All types of call forwarding—universal (CFU), busy (CFB), and don't answer (CFD)—are available to the end user when forwarding to the VMX. Traditionally, CFB and CFD are not used to forward calls outside an end user's customer group, but this can be done with datafill. The DMS-100 switch CFU feature interfaces with the VMX call answering feature.

Call forward universal to the VMX call answering feature

An end user can forward all calls to a mailbox by dialing the VMX call forward DN as the destination number, as follows, where X is any digit from 0 to 9, and CCC is the VMX end user access command code:

Network access code + VMX location code + XCCC

> ***Note:*** The seven-digit number “VMX location code + XCCC" used here must be datafilled in Table VMXTAB.

To specify the end user's voice mailbox address (location code + station number) and to reduce the outpulsed digit string to an acceptable length, the VMX call forward DN is converted to the following format, where CCC is the call forward command code, and XXXX is the end user's station number:

Network access code + CCC + end user's location code + XXXX

The call forward command code must be either a three-digit standard location code or a pseudo-location code. In either case, it must be datafilled to route to the VMX.

Once connected to the VMX, the caller hears either a personalized recording made by the end user or a standard recording. The caller can only leave a message. Anyone can forward calls to the VMX, but these messages can only be redirected electronically to those who have a mailbox.

Call forward busy

Since end users cannot program CFB, the forward number must be datafilled. The forward number must have the following format to identify the end user's mailbox address, where CCC is the call forward command code, and XXXX is the end user's station number:

Network access code + CCC + end user's location code + XXXX

If CFB outside the end user's customer group is necessary, the CBTYPE must be set to either CBE or N. If assigned through service orders, the default assignment is N. The appropriate intragroup designations also must be set to allow CFB outside the end user's customer group.

Call forward don't answer

Like CFB, an end user cannot program CFD. Also, the forward number that is datafilled is the same as CFB. By setting CDTYPE to either CDE or N, end users can forward outside their customer group. Service orders default to N when the feature is assigned.

VMX originated calls

VMX originates message waiting indication (MWI) calls and outgoing call requests.

MWI calls

When an end user's MWI is on, it means one of three things:

- A message is waiting at the DMS-100 switch message center.
- Another end user has left a call request.
- A message is waiting at the end user's VMX mailbox. (Both the DMS-100 switch and the VMX must be enabled first.)

A VMX can signal an end user when a caller has left a message in the end user's mailbox. To do this, the end user toggles dial code 057 to enable the MWI signal. Depending on the equipment involved, MWI signals an end user either by turning on a message waiting lamp or by sending a stuttered dial tone whenever the end user goes off-hook.

When an end user removes the last message from the message queue, the VMX seizes another trunk and originates an MWI OFF call, which turns the indicator off. There is a delay if all trunks are busy. The indicator may not go off if another feature has turned MWI back on.

Outgoing call requests

A VMX places outgoing calls to deliver telephone number messages (on local nodes or on ESN nodes) or to transfer messages from one VMX to another (voicenet).

VMX Interface (continued)

VMX originated calls may be restricted by DMS-100 switch network class of service (NCOS) assignments to VMX or other incoming trunk groups.

- Outcall delivery

  This function does three things:

  — Delivers messages to any telephone number. An end user dials the number and any access codes. On-net numbers must include the location code, even if it is the same as the end user's.

  — Takes an end user's mailbox off hold so that the VMX calls a beeper or the end user's telephone. Then, the end user can call the VMX for messages. The end user dials VMX special function code 062 to activate this function. However, the DN along with access codes must be datafilled on the VMX in Table CUSTENG.

  — Delivers voicenet messages. Depending on the way the system is engineered, the VMX keeps trying to deliver the message if it fails in the first attempt.

- VMX to VMX calls (voicenet calls from a voicenet port)

  VMX messages can be transferred from one mailbox to another on an ESN. Messages can be transferred immediately or stored and sent later in a batch. A parameter can be engineered to specify the time a message is sent. Each VMX must have a separate special network port dedicated to voicenet transfer, but a VMX can transfer multiple messages to a single VMX location with a single connection. Each network port location is identified through the use of ESN location codes or pseudo-location codes that route to a dedicated voicenet trunk group. The location codes must differ from the general VMX location codes used for the direct call, message desk calls, call forward functions, and the call forward command code.

- Off-net VMX access

  End users can call a VMX and access their voice mailboxes from an off-net location. By using the DMS-100 switch direct inward system access (DISA) service, an end user enters a DISA access code and dials the VMX as usual.

Billing

VMX Interface does not affect billing.

Station Message Detail Recording

VMX Interface does not affect Station Message Detail Recording.

Datafilling office parameters

VMX Interface does not affect office parameters.

Datafill sequence

VMX to DMS-100 switch call processing is dependent on exact datafill. Five codes have special datafill requirements:

- VMX location code

  This code must be datafilled to route to the DMS-100 switch that hosts a given VMX. In the host DMS-100 switch, this code routes to Table IBNRTE (IBN Route). Table IBNRTE assigns a digit manipulation index (DMI) that corresponds to an entry in Table DIGMAN (Digit Manipulation). This process removes four digits from the beginning of the digit string so that outpulsing begins with the command code.

- Call forward command calls

  The call forward command code must be datafilled as a location or pseudo-location code that routes to the DMS-100 switch that hosts the VMX. The route type FRTE must be specified to outpulse all digits. In the host DMS-100 switch, this code must route to the VMX trunk group. No DMI is necessary.

- MWI calls

  In the host DMS-100 switch, a unique NCOS must be assigned to the trunk group that goes to the VMX. The NCOS itself must be assigned with the NCOS preliminary translator. The preliminary translator must be datafilled as follows:

  — Assign the FTR translation selector to the MWI command codes. Specify the FTR_TYPE of VMX and three access digits.

  — Assign a valid location or office code. On an ESN route, specify the unique ESN class mark (TCOS, call type, and others) so that calls are identified at each ESN switch. Datafill on each ESN switch must use class of service mapping to convert the unique VMX-MWI class mark to a unique NCOS. Assign the NCOS to a pretranslator that has the same information as the NCOS pretranslator described for the host DMS-100 switch.

  — Specify the outcall command code in the host DMS-100 switch only.

  Note: The MWI command codes could be in the form of a pseudo-location code.

- Outcall command code

VMX Interface (continued)

VMX places an outcall command code before the digits in an outcall. This may be in a pseudo-location code format. The command code must be stripped off in the host switch, and this can be done in the NCOS pretranslator for VMX trunks. Give the command code an N selector and set the prefix fence to 3.

- Voicenet location code

  Datafill this code to route to the DMS-100 switch that hosts the voicenet port or trunk group. In the DMS-100 switch, this code must route to the voicenet trunk group. Like the call forward command code, the code may be in the form ONN. If so, the same attendant routing restrictions apply.

The following table lists the tables that require datafill to implement VMX Interface. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for VMX Interface

Table	Purpose of table
VMXTAB	Voice message exchange. This table provides data used when an end user forwards calls to a VMX mailbox.
CUSTENG	Customer group engineering. This table contains the values for the engineering parameters and options for each customer group.
IBNXLA	IBN Translation. This table contains the data for the digit translation of calls from an IBN station, AC, or incoming side of a two-way IBN trunk group.

Datafilling table VMXTAB

Table VMXTAB provides data used when an end user forwards calls to a VMX mailbox. Table VMXTAB requires changes to these EXT files. Table VMXTAB must be datafilled before assigning option VMX in Table CUSTENG.

The following table shows the datafill specific to VMX Interface for table VMXTAB. Only those fields that apply directly to VMX Interface are shown.

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

Datafilling table VMXTAB

Field	Subfield or refinement	Entry	Explanation and action
VMXIDX		0-255	Voice Message Index. This field specifies the index that is assigned in option VMX in Table CUSTENG. Enter a value from 0 to 255.
HMLOCD		vector of up to 3 digits	Home Location Code. This field specifies the 3-digit location code or office code assigned to the office being datafilled. Enter any 3-digit number that corresponds to the location or office code assigned to the office that is datafilled. Otherwise, enter 0.
NOEXTDGS		0-7	Number of Extension Digits. This field specifies the number of digits in the extension numbers assigned to the stations in the customer group that specifies this VMX index. Enter a value from 0 to 7.
NONACDGS		0-7	Number of Access Code Digits. This field specifies the number of digits in the network access code used by the customer group specifying this VMX index. Enter a value from 0 to 7.
VMXCFWDN		table of 7 digits 0 to 9	Voice Message Exchange Call Forward DN. This field specifies the DN assigned for use in call forwarding to the VMX. Enter a table of 7 digits with the values from 0 to 9.

Datafill example for table VMXTAB

The following example shows sample datafill for table VMXTAB.

MAP display example for table VMXTAB

```
VMXIDX    HMLOCCD    NOEXTDGS    NONACDGS    VMXCFWDN
_____________________________________________________
   1        226         4           3        8658172
```

VMX Interface (continued)

Datafilling table CUSTENG

Table CUSTENG contains the values for the engineering parameters and options for each customer group. VMX Interface adds option VMX to this table. The option includes a numeric index that specifies a tuple in Table VMXTAB.

The following table shows the datafill specific to VMX Interface for table CUSTENG. Only those fields that apply directly to VMX Interface 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		OPTION	Options. This field consists of subfield OPTION.
	OPTION	VMX	Option. This subfield specifies the voice message exchange option. Enter VMX.
If OPTION is set to VMX, subfield VMXINDX requires datafill.			
	VMXINDX	1-255	Voice Message Exchange. This subfield specifies the number corresponding to the entry in Table VMXTAB that is applicable to this customer group. Enter a value from 1 to 255.

Datafill example for table CUSTENG

The following example shows sample datafill for table CUSTENG.

MAP display example for table CUSTENG

```
CUSTNAME    NONCOS  NOIBNTMT    CONSOLES DOMAIN
                                GROUPID     OPTIONS
_____________________________________________________
ISDNGRP      256        32          Y       PRIVATE
                                    0       (VMX 20) $
```

Datafilling table IBNXLA

Table IBNXLA contains the data for the digit translation of calls from an IBN station, AC, or incoming side of a two-way IBN trunk group.

FTR_TYPE modifies this table for the FTR translation selector. Select the VMX feature type and enter whether the MWI is on or off (MWION or

MWIOFF) for the corresponding digilator index (the MWI command code) and the number of digits to collect after the MWI command code is received.

The following table shows the datafill specific to VMX Interface for table IBNXLA. Only those fields that apply directly to VMX Interface 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
KEY		see subfields	Key. This field consists of subfields XLANAME and DGLIDX.
	XLANAME	alphanumeric	Translator Name. This subfield specifies the name that is assigned to the translator. Enter the 1- to 8-character name.
	DGLIDX	vector of up to 18 digits	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 consists of subfield TRSEL.
	TRSEL	FTR	Translations Selector. This subfield specifies the translations selector to be used. Enter FTR.
	NOACCODE	3	Number of Activation Code Digits. This field specifies the number of activation code digits. Enter 3.
	FTRTYPE	VMX	Feature Result Translation Type. This subfield specifies the feature translation type. Enter VMX.
	MWITYPE	MWION or MWIOFF	Message Waiting Indication. Enter MWION if digits dialed are a message waiting indication on the command code. Enter MWIOFF if digits dialed are a message waiting indication off command code.
	DGSTOCOL	0-7	Digits to Collect. This subfield specifies the number of digits collected after the message waiting indication code is received. Valid range is from 0 to 7.

Datafill example for table IBNXLA

The following example shows sample datafill for table IBNXLA.

VMX Interface (end)

MAP display example for table IBNXLA

```
KEY                                          RESULT
_____________________________________________________________
NTIXLA  123                            FTR 0  VMX MWIOFF 7
```

Translation verification tools

VMX Interface does not use translation verification tools.

SERVORD

VMX Interface does not use SERVORD.

2 Datafilling MDC Tailored MDC 1

The following chapter describes the MDC Tailored MDC 1, MDC00012, functionality.

Calling Name Inspect Key

Ordering codes

Functional group ordering code: MDC00012

Functionality ordering code: not applicable

Release applicability

BCS28 and up

Prerequisites

To operate, Calling Name Inspect Key has the following prerequisites:

- BAS Generic, BAS00003
- MDC MBS Minimum, MDC00007
- MDC Minimum, MDC00001

Description

Calling Name Inspect Key provides an INSPECT key for Meridian business sets (MBS) that have display capability. The INSPECT key allows the MBS end user to display information about the other feature keys and directory number (DN) keys on an MBS.

The INSPECT key is also used to display information about an incoming call. For example, the end user can use the INSPECT key to see the name and DN of the caller before answering the call.

Different business sets have different display capabilities. A typical MBS with display has a 2-line by 16-character liquid crystal display (LCD). The M5209 and M5312 business sets have a 2-line by 24-character LCD. Only a key associated with an LCD lamp can be assigned as the INSPECT key.

Operation

Calling Name Inspect Key gives end users of MBSs with display easy access to important information about both the business set's assigned features and incoming calls. The designated INSPECT key enables end users to verify and display the following information:

- Features and DNs (including speed-calling numbers) assigned to individual buttons. With DN buttons, both the number and the name associated with each button are displayed. With feature buttons, the feature name and related information are displayed.
- On incoming calls to a DN key, Call Waiting key or Intercom, the end user can display information about the call without answering it. Typical call

information can include the caller's name and DN, plus forwarding information about redirected calls.

Messages displayed by the INSPECT key can be datafilled up to 15 characters long. Also datafilled for each customer group are timers that specify the following:

- how long each message is displayed (default is 5 s)
- the maximum interval permitted between the end user pressing the INSPECT key and any feature key

Translations table flow

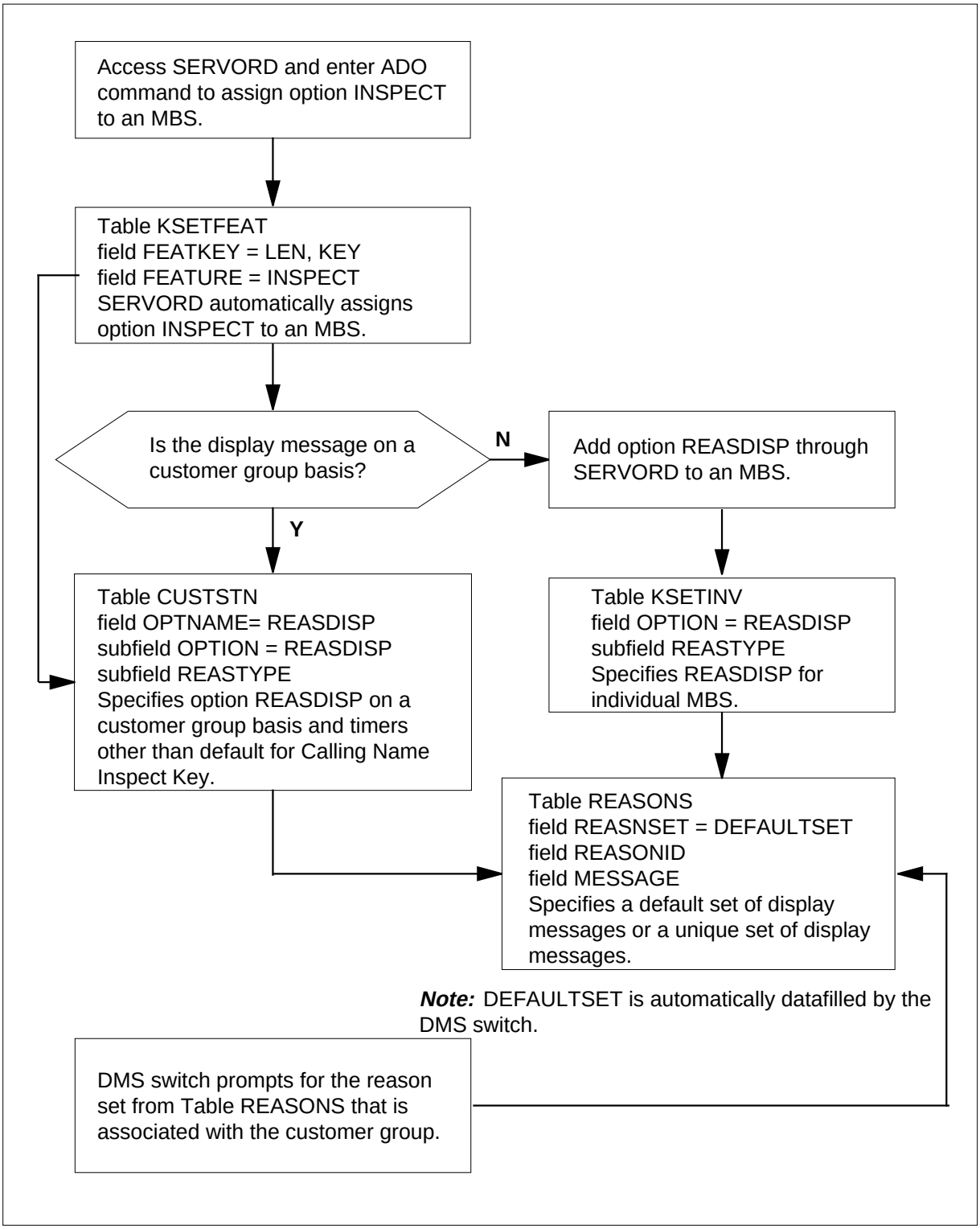
The Calling Name Inspect Key translations are described in the following list:

- Table CUSTSTN (Customer Group Station Option) contains the station options assigned to each customer group. For an MBS to display a reason display message, the customer group must be assigned option REASDISP in Table CUSTSTN.
- Table KSETFEAT (Business Set and Data Unit Feature) lists the line features that are assigned to an MBS listed in Table KSETLINE (Business Set and Data Unit Line Assignment). One entry is required for each feature that is assigned to a line. Calling Name Inspect Key adds the value INSPECT to field FEATURE in Table KSETFEAT. Calling Name Inspect Key allows an INSPECT key to be assigned to a business set. Calling Name Inspect Key can be assigned to any unused key that has a LCD lamp.
- Table KSETINV (Business Set and Data Unit Inventory) contains the station options assigned to each customer group. For an MBS to display a reason display message, the customer group must be assigned option REASDISP. Table CUSTSTN specifies the set of display messages to be used by all stations in the customer group. If option REASDISP is datafilled in Table KSETINV for a particular business set, the set of display messages is used instead of the reason set datafilled in Table CUSTSTN. Thus, option REASDISP is only required if a particular business set uses a different display messages than the customer group.
- Table REASONS (Business Set Reason Display) contains displays of feature and call progress information messages on an MBS with display

The Calling Name Inspect Key translations process is shown in the flowchart that follows. The flowchart and data show the translation flow to assign Calling Name Inspect Key to an MBS or 500/2500 set.

Calling Name Inspect Key (continued)

Table flow for Calling Name Inspect Key



Calling Name Inspect Key (continued)

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

Datafill example for Calling Name Inspect Key

Datafill table	Example data
KSETFEAT	HOST 00 1 18 8 2 INSPECT INSPECT
KSETINV	HOST 00 1 18 8 21 DISP N $ (REASDISP SET2) $
REASONS	DEFAULTSET INSPCFW CALL_FORWARD
CUSTSTN	MDCGRP1 REASDISP REASDISP DEFAULTSET
	MDCGRP2 REASDISP REASDISP SET1
	MDCGRP3 INSPACT INSPACT 20
	MDCGRP4 INSPDISP INSPDISP 10
	MDCGRP5 INSPDISP INSPDISP 5

Limitations and restrictions

The following limitations and restrictions apply to Calling Name Inspect Key:

- Normally, an incoming call to the primary DN (PDN) automatically displays the incoming call information. When Calling Name Inspect Key is active or when the display shows some information from an inspection, an incoming call to the PDN does not update the display. The business set receives alert tone instead of ringing, and the LCD lamp beside the PDN key starts blinking. When the PDN is answered, the display is cleared, and the incoming call information is displayed.
- Inspecting an idle DN, MADN, or AUL key displays the ten-digit number (area code + seven digits) assigned to the key. Inspecting an active, ringing, or held DN, MADN, AUL, or CWT key displays the extension number of the connected party.
- Inspecting a feature key that the inspect software does not support displays CANNOT INSPECT on the top line of the display.
- The only redirection reason currently supported by Calling Name Inspect Key is call forwarding. Inspecting an active or ringing DN, MADN, AUL, or CWT key displays a call forward reason (if applicable). No other call redirection reasons are supported by Calling Name Inspect Key at this time.

Calling Name Inspect Key (continued)

Interactions

Pressing any DN or feature key when Calling Name Inspect Key is active is treated as an inspection rather than a feature activation or call origination/termination.

Activation/deactivation by the end user

To activate Calling Name Inspect Key, the end user performs the following steps

Activation/deactivation of Calling Name Inspect Key by the end user

At your telephone

1 Press the INSPECT key.

Response:

The LCD lamp next to the INSPECT key turns on.

2 Choose a key to inspect by pressing the key.

Response:

Information about the key is displayed. Information about an active DN key displays information about the call.

The end user can press a feature key or a DN key. In general, inspecting a feature key or an idle DN keys displays information about the key. Inspecting an active DN key displays information about the call.

If the INSPECT key is pressed and no other key is pressed within 2 s, a message, illustrated below, is displayed to prompt the end user to press a key.

```
INSPECT MODE
PRESS  A  KEY
```

The end user has a certain amount of time to press a key after the prompt appears. The timer value is defined in Table CUSTSTN, option INSPACT (inspect activation timer). The default timer value is 10 s. If the default timer value expires, Calling Name Inspect Key is deactivated and the LCD lamp turns off.

Calling Name Inspect Key (continued)

The Calling Name Inspect Key cannot be activated in the following situations:

- when the software resources are not available
- when the end user is programming another feature
- when the end user is dialing
- when the end user is receiving dial tone

In most cases, the end user does not have to turn off Calling Name Inspect Key manually since it is automatically deactivated after a key is chosen for inspection and the information appears on the display. When Calling Name Inspect Key is deactivated, the LCD lamp next to the inspect key turns off.

To deactivate Calling Name Inspect Key, manually, the end user presses the INSPECT key while the feature is active.

Calling Name Inspect Key is also deactivated in the following situations:

- when the end user changes the hook state (goes on- or off-hook) while Calling Name Inspect Key is active. If the end user is involved in a call and Calling Name Inspect Key is active, going on-hook deactivates Calling Name Inspect Key and terminates the call. Note that if the other party in a call terminates the call, Calling Name Inspect Key is not deactivated.
- when the end user presses the release (RLS) key. If the end user is involved in a call and Calling Name Inspect Key is active, pressing the release key terminates the call and deactivates Calling Name Inspect Key.
- when the inspection activation timer expires. Option INSPACT in Table CUSTSTN determines how long Calling Name Inspect Key can be active and not used. The default time-out is 10 s. If the end user does not press a key to inspect within the time-out period, Calling Name Inspect Key is automatically deactivated.

Lamp states

The inspect LCD lamp has three possible states: on, off, or blinking.

- The LCD lamp is on when Calling Name Inspect Key is active and is ready to inspect a key.
- The LCD lamp is off when Calling Name Inspect Key is not active.
- In some cases, the inspect information does not fit on one page of the display. In this case, the inspect LCD lamp starts blinking, and the end user must press the INSPECT key again to see the remaining information on the next page.

Calling Name Inspect Key (continued)

Display format

Calling Name Inspect Key uses one of three generic formats for displaying information. The format used depends on whether the end user is inspecting an active DN key, an idle DN key, or a feature key.

Format for active DN keys

When the end user presses the INSPECT key followed by a DN key that is active (in the ringing or talking state), the following format is used to display information about the call.

NAME		DN
REASON	RNAME	RDN

The displayed information is as follows:

- NAME is the name of the caller.
- DN is the extension number of the caller.
- REASON is the reason for call redirection (call forwarding).
- RNAME is the name of the caller who redirected the call.
- RDN is the DN of the caller who redirected the call.

The name and extension of the caller are displayed on the top line. If a call is terminating on the DN because it is being forwarded by another station, the call forwarding reason is displayed on the bottom line of the display along with the name and DN of the station that forwarded the call.

Calling Name Inspect Key (continued)

Depending on the length of the messages and the size of the display, the messages may not fit on one line of the display. If this is the case, the following rules apply:

- If the name and DN do not fit on the top line, the name is displayed on the top line and the DN is displayed on the bottom line. If applicable, the call forwarding reason information is displayed on the second page.

NAME
DN

Page 1

REASON
RNAME RDN

Page 2

- If the name and DN fit on the top line, but the reason information does not fit on the bottom line, the extra reason information is displayed on the second page.

NAME DN
REASON RNAME

Page 1

RDN

Page 2

- If the REASON and the RNAME do not fit on the bottom line, the following format is used.

NAME DN
REASON

Page 1

RNAME
RDN

Page 2

Names are assigned to DNs in Table DNATTRS (Directory Number Attributes) or Table DNGRPS (Directory Number Groups). If the caller does not have a name assigned to his or her DN, no name is displayed.

Format for idle DN keys

When the end user presses the INSPECT key followed by an idle DN key, information about the DN is displayed in the format illustrated below.

Calling Name Inspect Key (continued)

NAME
DN

The name assigned to the DN is displayed on the top line, and the ten-digit DN is displayed on the bottom line.

> ***Note:*** Name display is enabled for a customer group using option NAMEDISP in Table CUSTSTN. Names are assigned to DNs using option NAME in the Service Order System (SERVORD). These names are stored in Table DNATTRS.

In the idle DN format, if there is no name assigned to the DN in Table DNATTRS, but option NAMEDISP is present in Table CUSTSTN, the message NO NAME is displayed on the top line. However, if option NAMEDISP is not datafilled in Table CUSTSTN, the top line is left blank.

Format for feature keys

If the end user presses the INSPECT key followed by a feature key, information about the key is displayed in the following format.

FEATURE NAME
FEATURE RELATED INFORMATION

The name of the feature is displayed on the top line. If there is other feature information, it is displayed on the bottom line.

Inspect messages

The messages displayed by the INSPECT key are datafilled in Table REASONS. A default set of messages is automatically datafilled in Table REASONS by the DMS switch. If the end user wants messages other than the default messages, additional reason sets can be datafilled.

Calling Name Inspect Key (continued)

The following table lists the default messages that are created by this feature and indicates how each message is used.

Default messages created by Calling Name Inspect Key (Sheet 1 of 2)

Default message	Message use
ACTIVE GROUP	Used by MADN SCA groups
AUTO ANSWER	Automatic answer back key
AUTOMATIC DIAL	Automatic dial key
AUTOMATIC LINE	Automatic line key
CALL FORWARD	Call forward key
CALL PARK	Call park and directed call park key
CALL PICKUP	Call pickup key
CALL WAIT KEY	Call waiting key
CANNOT INSPECT	Feature keys that cannot be inspected
CONF-6	Conference key, maximum conference is 6
CONF-10	Conference key, maximum conference is 10
CONF-14	Conference key, maximum conference is 14
CONF-18	Conference key, maximum conference is 18
CONF-22	Conference key, maximum conference is 22
CONF-26	Conference key, maximum conference is 26
CONF-30	Conference key, maximum conference is 30
CONFERENCE KEY	Conference key
ENTER CELL #	Speed call key
GROUP INTERCOM	Group intercom key
INSPECT MODE	Inspect key prompt
INTERCOM KEY	Intercom key
MAKE SET BUSY	Make set busy key
MALICIOUS HOLD	Malicious call hold key

Calling Name Inspect Key (continued)

Default messages created by Calling Name Inspect Key (Sheet 2 of 2)

Default message	Message use
MESSAGE WAITING	Message waiting/call request feature
MSG INDICATOR	Message waiting indicator key
MSG QUERY	Message waiting query key
NN MSGS WAITING	Message waiting feature
NO CALLS	Call pickup feature
NO MESSAGES	Message waiting/call request feature
NO NAME	For idle DNs that do not have a name
NOT PROGRAMMED	For unprogrammed speed call, AUL, and call forward keys
ON HOLD, LOCAL	MADN on hold, when I am holding
ON HOLD, REMOTE	MADN on hold, when another member is holding
OVERRIDE KEY	Executive busy override key
PRESS A KEY	Prompt for the inspect feature
PRIVACY KEY	Privacy key
PRIVACY RELEASE	Privacy release key
QUERY STATION	Query busy station key
QUERY TIME/DATE	Query time and date key
RING AGAIN	Ring again key
RING FORWARD	MADN ring forward key
SHARED NUMBER	Multiple appearance directory number (MADN)
SPEEDCALL LONG	Speed call long key
SPEEDCALL SHORT	Speed call short key
SPEEDCALL USER	Speed call user key
THREE WAY CALL	Three-way calling key
UNASSIGNED KEY	For unassigned keys

Inspect display examples

This section details the inspect information that is displayed for each DN and feature. All examples assume that the default display messages are being used.

Unless otherwise noted, Calling Name Inspect Key is deactivated (the inspect LCD lamp turns off) after a key is chosen. The inspect information stays on the display for a certain period of time after the LCD lamp turns off. The default is 5 s. This value can be changed by datafilling option INSPDISP in Table CUSTSTN.

If an incoming call rings the primary DN (PDN), and there is inspect information left on the display, the PDN buzzes instead of ringing, and the old inspect information stays on the display until the time-out value expires. When the PDN call is answered, the old inspect information is automatically cleared, and the call information is displayed.

DN keys and some feature keys display a name when inspected. Name display is enabled for a customer group by datafilling option NAMED in Table CUSTSTN. DNs and their assigned names are stored in Table DNATTRS or Table DNGRPS. If the customer group is assigned option NAMEDISP, but no name is assigned to the DN, the message NO NAME is displayed. If the customer group is not assigned option NAMEDISP, blanks are displayed. The examples in this feature description assume that names have been assigned.

Unassigned keys

Pressing the INSPECT key followed by an unassigned key displays `UNASSIGNED KEY` on the top line of the display.

Special keys

The following keys cannot be inspected: MUTE, HOLD, HANDSFREE, VOL UP, VOL DOWN, and RELEASE. Attempts to inspect these keys are ignored.

Note: Held DN keys are inspected by pressing the DN key, not the hold key.

DN keys

Inspecting a DN key displays information about the DN without changing the state of the DN. Pressing a DN key after the INSPECT key displays different information depending on the state of the DN.

The following explanation applies to primary DN (PDN), secondary DN (SDN), and hunt group DN keys. Multiple appearance directory number (MADN) keys are explained in the next section.

Idle state Pressing the INSPECT key followed by an idle DN key displays the name assigned to the DN and the ten-digit number assigned to the DN.

Calling Name Inspect Key (continued)

In the following example, the DN is 613-722-4396 and is assigned the name J SMITH.

J SMITH
6137224396

Ringing state Pressing the INSPECT key followed by a ringing DN displays the name and extension number of the calling party. Inspecting a DN key does not answer the call.

In the following example, the calling party is R LEE at extension 4333.

R LEE 4333

Note that when the primary DN key is ringing, the above information is displayed automatically. It is not necessary to use the INSPECT key.

If the call is arriving on the DN due to call forwarding, the bottom line of the display shows a call forward message along with the name and extension of the party with call forwarding. In the following example, the originator of the call is R LEE, and the call is forwarded by J DOE of extension 2222.

R LEE 4333
CALL FWD J DOE 2222

Holding state Pressing the INSPECT key followed by a DN that is on hold displays the name and DN of the held party. The message `ON HOLD, LOCAL` is also displayed. Inspecting a held DN key does not take the call off hold.

In the following example, R LEE of extension 4333 is on hold.

Calling Name Inspect Key (continued)

R LEE 4333
ON HOLD, LOCAL

If the name and DN do not fit on the top line, the name is displayed on the top line, the DN on the bottom line, and the `ON HOLD, LOCAL` message on the second page. To see the second page, the end user must press the INSPECT key again.

JANE ANDERSONS
1212

Page 1

ON HOLD, LOCAL

Page 2

Talking state Pressing the INSPECT key followed by a DN that is in the talking state displays the same information as for a ringing DN.

Conference state Pressing the INSPECT key followed by a DN that is in a conference state displays `CONFERENCE` on the top line of display.

Multiple Appearance Directory Number (MADN)
The MADN features allow one DN to appear on many business sets. A name can be associated with the MADN group in Table DNATTRS, and each individual member of the MADN group can have a different name in Table MDNMEM.

Pressing the INSPECT key followed by an idle MADN DN key displays the member's name on the top line and the DN on the bottom line. The inspect LCD lamp blinks to indicate that there is more information on the second page. The second page provides the MADN group name and the message `SHARED NUMBER` In the following example, the MADN group member's name is J SMITH, and the MADN is 3619. The name of the MADN group is SALES DEPT.

JOHN SMITH
3619

Page 1

SALES DEPT
SHARED NUMBER

Page 2

Calling Name Inspect Key (continued)

Inspecting a MADN key that is in the ringing or talking state displays information about the call.

Inspecting a MADN key while another member is active on the MADN displays the following information:

- For single call arrangement (SCA) groups, `ACTIVE GROUP` is displayed on the top line.
- For multiple call arrangement (MCA) groups, the same information as for an idle member is displayed.

Inspecting a MADN key when the DN is on hold displays the call information about the held party on the top line. On the bottom line, one of the following messages is displayed, depending on who is holding the call:

- `ON HOLD, LOCAL` is displayed if the call is held by the same member who is performing the inspection
- `ON HOLD, REMOTE` is displayed if the call is held by another member in the group

Feature keys

Inspecting a feature key displays information about the feature. Some features display different information depending on whether the feature is currently active or inactive.

Autodial (AUD) Pressing the INSPECT key followed by the AUD key displays `AUTOMATIC DIAL` on the top line and the programmed digits on the bottom line. If the programmed digits do not fit on the bottom line, the digits are displayed on the second page. On the second page, the digits are read from left to right and from top to bottom. If the end user displays an unprogrammed AUD key, `NOT PROGRAMMED` is displayed on the lower line. In the following example, the AUD key is programmed to 54396.

`AUTOMATIC DIAL`
`54396`

Automatic Line (AUL) AUL is a feature that is assigned to a DN key. AUL automatically originates a call to a predefined DN.

Pressing the INSPECT key followed by an idle DN key with the AUL feature displays the normal idle DN information on the first page. On the second page, the AUL information is displayed. `AUTOMATIC LINE` is displayed on the

top line, and the DN to which calls automatically terminate is shown on the bottom line. In the following example, the DN key is 613-722-4333 and is assigned to R LEE. The DN has the AUL feature programmed to extension 7996.

R LEE
6137224333

Page 1

AUTOMATIC LINE
7996

Page 2

Auto Answer Back (AAB) Pressing the INSPECT key followed by an active or inactive AAB key displays AUTO ANSWER on the top line of the display.

Call Forwarding (CFW) Pressing the INSPECT key followed by an inactive CFW key displays `CALL FORWARD` on the top line of the display. If the inactive CFW key has programmed digits stored, the digits are displayed on the lower line.

Pressing the INSPECT key followed by an activated CFW key (the CFW LCD lamp is on) displays `CALL FORWARD` on the top line and the programmed digits on the bottom line. If the programmed digits do not fit on one line, the digits are displayed on the second page.

In the following example, the CFW key is programmed to extension 4333.

CALL FORWARD
4333

If no digits are programmed, `NOT PROGRAMMED` is displayed on the bottom line.

Call Pickup (CPU) Pressing the INSPECT key followed by the CPU key displays different information depending on the state of the CPU group, as follows:

- If there is no call coming into the CPU group, the display reads `CALL PICKUP` on the top line and `NO CALLS` on the bottom line.
- If there is a call coming into the CPU group, the display shows information about the call coming into the CPU group on the top line of the display.

Calling Name Inspect Key (continued)

The `PICKUP` reason and the NAME and DN of the ringing CPU member are provided on the bottom line. If all the information does not fit on one page, the call information is displayed on the second page.

In the following example, the calling party that is ringing the CPU group is BRIAN DOVER. The called party in the group is JANE ANDERSONS.

`BRIAN DOVER  1234`	
`PICKUP`	

Page 1

`JANE ANDERSONS`

Page 2

- If there is more than one call coming into the CPU group, the display shows the call information for the first call that would be answered.

Inspecting a CPU key does not answer the call.

Directed CPU is not accessed by a key and therefore cannot be inspected.

Call Park (PRK) and Directed Call Park (DPRK) Pressing the INSPECT key followed by the PRK or DPRK key displays `CALL PARK` on the top line of the display.

Inspecting a PRK key when a parked call is recalling displays the parked call information (DN and NAME) as for an incoming call.

Executive Busy Override (EBO) The EBO feature allows a party to barge into an established call.

Pressing the INSPECT key followed by an EBO key displays `OVERRIDE KEY` on the top line.

After a party barges into a call, the call becomes a three-way conference call. Inspection of the DN key at this point displays `CONFERENCE on the top line.`

- Call Waiting (CWT) Pressing the INSPECT key followed by an idle CWT key displays `CALL WAIT KEY` on the top line.

  For an active CWT key, calls can be displayed in the same way as for a DN key. When a call is waiting on the CWT key, inspection displays the call

information of the waiting call without answering the call. This allows the end user to see who is waiting before answering the call.

- Conference feature Pressing the INSPECT key followed by the conference (CNF) key when its LCD lamp is off displays CONFERENCE KEY on the top line and the maximum conference size allowed on the bottom line. The maximum conference sizes are 6, 10, 14, 18, 22, 26, or 30. In the following example, the maximum conference size for the conference feature is 6.

`CONFERENCE CALL`
`CONF-6`

Pressing the INSPECT key followed by the conference key when its LCD lamp is on (consult mode) displays the call information of the party on the consult leg.

When the call is conferenced, the LCD lamp beside the conference key is off and the state of the DN is conferenced. Inspection of a conferenced DN displays `CONFERENCE` on the top line.

Group Intercom (GIC) The GIC feature allows the end user to call a member of a predesignated group using abbreviated dialing.

Pressing an inactive GIC key after the INSPECT key displays `GROUP INTERCOM` on the top line of the display.

Pressing an active (talking or ringing) GIC key after the INSPECT key displays the name and the group number of the other member.

Intercom (ICM) Pressing an active or inactive ICM key after the INSPECT key displays `INTERCOM KEY` on the top line of the display.

MADN Ring Forward (MRF) Pressing the INSPECT key followed by the MRF feature key displays `RING FORWARD` on the top line of the display.

Make Set Busy (MSB) Inspecting an active or inactive MSB key displays `MAKE SET BUSY` on the top line. Inspecting the MSB key does not turn the MSB feature on or off.

Malicious Call Hold (MCH) Pressing the INSPECT key followed by an active or inactive MCH key displays `MALICIOUS HOLD` on the top line of the display.

Calling Name Inspect Key (continued)

Message Waiting (MWT) and Call Request (CAR) The MWT feature allows a message center to inform the end user that a message is waiting. The CAR feature allows a station end user to leave a message with another station requesting that the station return the call. The station end user is notified that a message is waiting by the MWT lamp.

Pressing the INSPECT key followed by an inactive message waiting key displays `MESSAGE WAITING` on the upper line. The bottom line displays `NO MSGS WAITING`.

`MESSAGE WAITING`
`NO MSGS WAITING`

If the message waiting key is inspected while its LCD lamp is on, `MESSAGE WAITING` is displayed on the top line and an indication of how many messages are waiting is displayed on the bottom line.

`MESSAGE WAITING`
`03 MSGS WAITING`

Message Waiting Indicator (MWIDC) Pressing the INSPECT key followed by the MWIDC key displays `MSG INDICATOR` on the top line.

Message Waiting Query (MWQRY) Pressing the INSPECT key followed by the MWQRY key displays `MSG QUERY` on the top line of the display.

Privacy (PRV) Pressing the INSPECT key followed by the PRV feature key displays `PRIVACY KEY` on the top line of the display.

Privacy Release (PRL) Pressing the INSPECT key followed by the PRL feature key displays `PRIVACY RELEASE` on the top line of the display.

Query Busy Station (QBS) Pressing the QBS key after an INSPECT key displays `QUERY STATION` on the top line of the display.

Query Time and Date (QTD) Inspecting an active or inactive QTD key displays `QUERY TIME/DATE` on the top line.

Calling Name Inspect Key (continued)

Speed Call features The INSPECT key can be used to display the DN programmed by the speed call short (SCS), speed call long (SCL), and speed call user (SCU) features.

To display the programmed speed call number:

- The INSPECT key is pressed, followed by the speed call key. The speed call lamp turns on, and the display reads `SPEEDCALL SHORT` for an SCS key, `SPEEDCALL LONG` for an SCL key, or `SPEEDCALL USER` for an SCU key. The end user is prompted to enter a cell number by the `ENTER CELL #` message.

`SPEEDCALL SHORT`
`ENTER CELL #`

- The speed call cell number must be entered (one digit for SCS and two digits for SCL and SCU).

  After a cell number is entered, the display shows the speed call cell number followed by a hyphen and the speed call digits. The end user is prompted to enter another cell number. In the following example, speed call cell 2 is programmed to 4444.

`2-4444`
`ENTER CELL #`

  If the end user enters another speed call cell, the process of displaying continues until the end user deactivates Calling Name Inspect Key. The process is also ended if the end user does not enter any cell number within a certain period of time. The default is 10 s.

If the speed call cell number and digits do not fit on the top line, the display wraps to the bottom line, and the `ENTER CELL #` message is not displayed.

If the end user tries to display an unprogrammed cell number, the top line reads `NOT PROGRAMMED` and the cell number is not displayed. `ENTER CELL #` is displayed on the bottom line.

Ring Again (RAG), Network Ring Again, and Call-back Queuing (CBQ) Inspecting the RAG key when the LCD lamp is off displays `RING AGAIN` on the top line.

Calling Name Inspect Key (continued)

Inspecting the RAG key when the LCD lamp is on or blinking displays the DN of the ragged upon party (the dialed digits for CBQ) on the bottom line and `RING AGAIN` on the top line of the display. This does not affect the state of the RAG/CBQ feature.

Three-Way Calling (3WC) Pressing the INSPECT key followed by the 3WC key when its LCD lamp is off displays `THREE WAY CALL` on the top line.

Pressing the INSPECT key followed by a 3WC key when its LCD lamp is on (consult mode) displays the name and DN of the call on the consult leg (the add-on party).

In conference mode, when all three parties are connected, the 3WC LCD lamp is off. Pressing the INSPECT key followed by a DN key or 3WC key that is conferenced displays CONFERENCE on the top line of the display.

Billing

Calling Name Inspect Key does not affect billing.

Station Message Detail Recording

Calling Name Inspect Key does not affect Station Message Detail Recording.

Datafilling office parameters

Calling Name Inspect Key does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement Calling Name Inspect Key. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Calling Name Inspect Key (Sheet 1 of 2)

Table	Purpose of table
KSETFEAT (Note)	Business Set and Data Unit Feature. This table lists the line features that are assigned to an MBS listed in the Table KSETLINE.
KSETINV (Note)	Business Set and Data Unit Inventory. This table contains the station options assigned to each customer group.
Note: This table is datafilled through SERVORD; therefore, no datafill procedure is provided. Refer to “SERVORD" for an example of using SERVORD to datafill these tables.	

Calling Name Inspect Key (continued)

Datafill tables required for Calling Name Inspect Key (Sheet 2 of 2)

Table	Purpose of table
CUSTSTN	Customer Group Station Option. This table contains the station options assigned to each customer group.
REASONS	Business Set Reason Display. This table contains displays of feature and call progress information messages on an MBS with display.
Note: This table is datafilled through SERVORD; therefore, no datafill procedure is provided. Refer to “SERVORD" for an example of using SERVORD to datafill these tables.	

Datafilling table CUSTSTN

Table CUSTSTN (Customer Group Station Option) contains the station options assigned to each customer group. This feature creates two additional options in Table CUSTSTN: INSPACT (inspect activation time-out) and INSPDISP (inspect display time-out).

Option INSPACT defines a time limit on how long Calling Name Inspect Key stays activated if the end user presses the INSPECT key and then fails to choose a key to inspect. When the time-out period expires, Calling Name Inspect Key is automatically deactivated (the inspect LCD lamp turns off). If option INSPACT is not datafilled, the default time-out period is 10 s.

Option INSPDISP defines a time limit on how long inspect messages appear on the display. When the time-out period expires, the display is automatically cleared of the inspect messages. If option INSPDISP is not datafilled, the default time-out period is 5 s.

If Table CUSTSTN is not datafilled to define the time-out values for inspect activation and inspect display, the default time-out values are used.

The following table shows the datafill specific to Calling Name Inspect Key for table CUSTSTN. Only those fields that apply directly to Calling Name Inspect

Calling Name Inspect Key (continued)

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

Datafilling tableCUSTSTN

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		alphanumeric (1 - 16 characters)	Customer Group Name. This field specifies the 1- to 16-character alphanumeric name that is assigned to the customer group. Enter the customer group name.
OPTNAME		INSPACT	Option Name. This field specifies the name of the option. Enter INSPACT to set a time-out value for INSPECT key activation. If this option is not datafilled, the default time-out is 10 s.
OPTION		INSPACT	Option. This field specifies the name of the option. Enter INSPACT for inspect activate timer.
ACTTIMER		5 - 9, 11 - 60	Activate Timer. This subfield specifies the time period, in 1-s intervals, that Calling Name Inspect Key can be active and not used. Enter a value from 5 to 9 or 11 to 60. The default value is 10 s.
OPTNAME		INSPDISP	Option. This field specifies the name of the option. Enter INSPDISP to set a time-out value for inspect display. If this option is not datafilled, the default time-out is 5 s.
OPTION		INSPDISP	Option. This field specifies the name of the option. Enter INSPDISP for inspect display timer.
DISPTIMER		2 - 4, 6 - 30	Display Timer. This subfield specifies the time period, in 1-s intervals, that Calling Name Inspect Key is displayed. Enter a value from 2 to 4 or 6 to 30. The default value is 5 s.

Datafill example for table CUSTSTN

The following example shows sample datafill for Table CUSTSTN. In the example, the customer group NTI is assigned the reason display option REASDISP. The set of display messages from Table REASONS that are used is the DEFAULTSET. Customer NTI does not have option INSPACT or option INSPDISP. Thus, the INSPACT timer defaults to 10 s, and the INSPDISP timer defaults to 5 s.

The second customer group, BNR, is assigned the display messages in SET1. SET1 does not have messages datafilled for every possible call event (REASONID). For call events that are not datafilled, the display messages default to the DEFAULTSET messages. Customer BNR has the INSPACT timer set to 20 s and the INSPDISP timer set to 10 s.

The last customer group, CUST1, has the INSPDISP timer set to 5 s. This customer group does not have option REASDISP. Thus, this customer group uses the inspect reason messages from the DEFAULTSET. Note that without option REASDISP, the reason messages that are not associated with Calling Name Inspect Key are not be displayed.

MAP display example for table CUSTSTN

```
TABLE: CUSTSTN

CUSTNAME                OPTNAME                       OPTION
-------------------------------------------------------------
MDCGRP1                 REASDISP          REASDISP DEFAULTSET
MDCGRP2                 REASDISP          REASDISP SET1
MDCGRP3                 INSPACT           INSPACT  20
MDCGRP4                 INSPDISP          INSPDISP 10
MDCGRP5                 INSPDISP          INSPDISP  5
```

Datafilling table REASONS

Table REASONS (Business Set Reason Display) contains the display messages for business sets. Table REASONS contains a default set of display messages for each call event that initiates a display message. The default set of display messages is called the DEFAULTSET and is automatically datafilled by the DMS switch. If the operating company wants display messages that are different from those in the default set, additional sets of messages can be added to Table REASONS.

If needed, Table REASONS can be datafilled to create display messages for Calling Name Inspect Key. This table always contains a default set of display messages called the DEFAULTSET; therefore, this table need only be datafilled by the operating company if different display messages are desired.

The following table shows the datafill specific to Calling Name Inspect Key for table REASONS. Only those fields that apply directly to Calling Name

Calling Name Inspect Key (continued)

Inspect Key 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		alphanumeric (1 - 16 characters)	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		name of reason	Reason Identification. This field specifies the name of the reason. Enter the reason to correspond to the type of call.
MESSAGE		alphanumeric (up to 15 characters)	Displayed Message. This field specifies a descriptive message for the option being programmed. Enter a message. Messages can contain a maximum of 15 characters.

This feature creates display messages for the inspect key feature. This feature adds the default tuples listed in the following table to Table REASONS.

Default tuples added to Table REASONS by Calling Name Inspect Key (Sheet 1 of 3)

REASNSET	REASONID	MESSAGE
DEFAULTSET	INSPACTGRP	ACTIVE_GROUP
DEFAULTSET	INSPAUD	AUTOMATIC_DIAL
DEFAULTSET	INSPAUL	AUTOMATIC_LINE
DEFAULTSET	INSPCFW	CALL_FORWARD
DEFAULTSET	INSPCALLMWT	NN_MSGS_WAITING
DEFAULTSET	INSPCPK	CALL_PARK
DEFAULTSET	INSPCPU	CALL_PICKUP
DEFAULTSET	INSPCWT	CALL_WAIT KEY
DEFAULTSET	INSPCNF6	CONF-6
DEFAULTSET	INSPCNF10	CONF-10
DEFAULTSET	INSPCNF14	CONF-14

Calling Name Inspect Key (continued)

Default tuples added to Table REASONS by Calling Name Inspect Key (Sheet 2 of 3)

REASNSET	REASONID	MESSAGE
DEFAULTSET	INSPCNF18	CONF-18
DEFAULTSET	INSPCNF26	CONF-26
DEFAULTSET	INSPCNFKEY	CONFERENCE_KEY
DEFAULTSET	INSPSPSMG	ENTER_CELL_#
DEFAULTSET	INSPGIC	GROUP_INTERCOM
DEFAULTSET	INSPMODE	INSPECT_MODE
DEFAULTSET	INSPICM	INTERCOM_KEY
DEFAULTSET	INSPMSB	MAKE_SET_BUSY
DEFAULTSET	INSPMWT	MESSAGE_WAITING
DEFAULTSET	INSPNOCALL	NO_CALLS
DEFAULTSET	INSPNOMSG	NO_MESSAGES
DEFAULTSET	INSPNONAME	NO_NAME
DEFAULTSET	INSPNOTPGMD	NOT_PROGRAMMED
DEFAULTSET	INSPIHOLD	ON HOLD,_LOCAL
DEFAULTSET	INSPUHOLD	ON HOLD,_REMOTE
DEFAULTSET	INSPEBO	OVERRIDE_KEY
DEFAULTSET	INSPPRESS	PRESS_A_KEY
DEFAULTSET	INSPPRV	PRIVACY_KEY
DEFAULTSET	INSPPRL	PRIVACY_RELEASE
DEFAULTSET	INSPQBS	QUERY_STATION
DEFAULTSET	INSPQID	QUERY_TIME/DATE
DEFAULTSET	INSPRAG	RING_AGAIN
DEFAULTSET	INSPMADN	SHARED_NUMBER
DEFAULTSET	INSPSCL	SPEEDCALL_LONG

Calling Name Inspect Key (continued)

Default tuples added to Table REASONS by Calling Name Inspect Key (Sheet 3 of 3)

REASNSET	REASONID	MESSAGE
DEFAULTSET	INSPSCS	SPEEDCALL_SHORT
DEFAULTSET	INSPSCU	SPEEDCALL_USER
DEFAULTSET	INSPTWC	THREE_WAY_CALL
DEFAULTSET	INSPUNASSIGN	UNASSIGNED_KEY
DEFAULTSET	INSPCANTINSP	CANNOT_INSPECT
DEFAULTSET	INSPMRF	RING_FORWARD
DEFAULTSET	INSPMCH	MALICIOUS_HOLD
DEFAULTSET	INSPAAB	AUTO_ANSWER
DEFAULTSET	INSPMWIDC	MSG_INDICATOR
DEFAULTSET	INSPMWQRY	MSG_QUERY

If different display messages are desired, Table REASONS can be datafilled with additional sets of messages. The DEFAULTSET cannot be deleted or changed.

Datafill example for table REASONS

The following example shows sample datafill for Table REASONS with reasons sets DEFAULTSET, SET1, and SET2 displayed.

Calling Name Inspect Key (continued)

MAP display example for table REASONS

```
TABLE: REASONS

  REASNSET            REASONID            MESSAGE
-------------------------------------------------------
  DEFAULTSET          INSPACTGRP          ACTIVE_GROUP
  DEFAULTSET          INSPAUD             AUTOMATIC_DIAL
  DEFAULTSET          INSPAUL             AUTOMATIC_LINE
  DEFAULTSET          INSPCFW             CALL_FORWARD
  DEFAULTSET          INSPCALLMWT         NN_MSGS_WAITING
  DEFAULTSET          INSPMRF             RING_FORWARD
  DEFAULTSET          INSPSCL             SPEEDCALL_LONG
  DEFAULTSET          INSPSCS             SPEEDCALL_SHORT
  DEFAULTSET          INSPSCU             SPEEDCALL_USER
  DEFAULTSET          INSPTWC             THREE_WAY_CALL
  DEFAULTSET          INSPUNASSIGN        UNASSIGNED_KEY
  DEFAULTSET          INSPCANTINSP        CANNOT_INSPECT
  SET1                INSPSCL             SPEED_LONG
  SET1                INSPSCS             SPEED_SHORT
  SET1                INSPSCU             SPEED_USER
  SET1                INSPIHOLD           MY_HOLD
  SET2                INSPIHOLD           MY_HOLD
```

Translation verification tools

Calling Name Inspect Key does not use translation verification tools.

SERVORD

Tables KSETFEAT and KSETINV are datafilled through the service order utility, SERVORD.

Table KSETFEAT lists the line features that are assigned to an MBS listed in Table KSETLINE.

Table KSETINV contains the station options assigned to each customer group.

Calling Name Inspect Key creates line options INSPECT and REASDISP. These options can be assigned to an MBS that has display capability. Option INSPECT assigns an INSPECT key to a business set. Option INSPECT must be assigned to a key that has a LCD lamp associated with it. Option REASDISP associates a set of display messages with a line; the display messages are defined in Table REASONS.

Calling Name Inspect Key (continued)

A set of display messages is called a reason set. Table REASONS contains a default set of reasons and their associated display messages. This default reason set is called DEFAULTSET and is automatically datafilled by the DMS switch. Table REASONS requires datafill if the customer group wants display messages other than the ones provided by DEFAULTSET. Thus, individual business sets can use different display messages than the rest of the customer group.

The following commands are used to add and delete options INSPECT and REASDISP to a business set:

- ADO (add option)
- DEO (delete option)
- NEW (establish service)

SERVORD limitations and restrictions

Calling Name Inspect Key has no SERVORD limitations and restrictions.

SERVORD prompts

The following commands are used to add and delete options INSPECT and REASDISP to a business set:

- ADO (add option)
- DEO (delete option)
- NEW (establish service)

The following table shows the SERVORD prompts used to assign Calling Name Inspect Key to an MBS.

SERVORD prompts for Calling Name Inspect Key

Prompt	Valid input	Explanation
DN_OR_LEN	7-digit DN or LEN	Specifies the 7-digit DN or LEN of the line to be changed. Enter the DN or LEN.
OPTKEY	1 to 69	Indicates the key on an MBS to which an option is assigned. Enter a value from 1 to 69.
OPTION	INSPECT, REASDISP	Indicates the name of the option. Enter INSPECT or REASDISP.
REASTYPE	Reason set name from Table REASONS	Specifies the reason set to be used by the business set. This set overrides the reason set from Table CUSTSTN.

Calling Name Inspect Key (continued)

Note: Tables KSETFEAT and KSETINV are automatically datafilled when

Example service orders for implementing Calling Name Inspect Key

The following SERVORD example shows how option INSPECT is added to an existing business set. In this example, key number 3 on the set is defined as the INSPECT key.

Adding option INSPECT to an existing business set using SERVORD in prompt mode

```
>
SO:
>ADO
SONUMBER: NOW 88 09 21 PM
>
DN_OR_LEN:
> 0 0 0 21
OPTKEY:
> 3
OPTION:
> INSPECT
OPTKEY:
> $
```

Adding option INSPECT to an existing business set using SERVORD in no-prompt mode

```
> ADO  $  0 0 0 21  3  INSPECT  $
```

The following service order example shows how option REASDISP is added to an existing business set. Note that option REASDISP is a set option and can be assigned to any key on the set. In this example, the business set uses the display messages defined for reason set SET2 in Table REASONS. Reason set SET2 is used instead of the reason set assigned to the customer group in Table CUSTSTN.

Calling Name Inspect Key (end)

Adding option REASDISP to an existing business set using SERVORD in prompt mode

```
>
SO:
>ADO
SONUMBER: NOW 88 09 21 PM
>
DN_OR_LEN:
> 0 0 0 21
OPTKEY:
>1
OPTION:
> REASDISP
REASTYPE:
> SET2
OPTKEY:
> $
```

Adding option REASDISP to an existing business set using SERVORD in no-prompt mode

```
> ADO  $  0 0 0 21  1  REASDISP  SET2  $
```

Station Camp On for Meridian Business Set

Ordering codes

Functional group ordering code: MDC00012

Functionality ordering code: not applicable

Release applicability

NA011 and later versions.

Prerequisites

To operate, Station Camp On for Meridian Business Set (MBSCAMP) has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC MBS Minimum, MDC00007

Description

Station Camp On for Meridian Business Set improves the call transfer (CXR) capability for the Meridian business set (MBS). Station Camp On for Meridian Business Set allows an MBS end user to transfer a call to a busy station. The name of this capability is camp-on. The CXR party is on hold to the busy station. When the busy station does not answer the call within an exact time period, the CXR party recalls to the MBS.

Before Station Camp On for Meridian Business Set, the camp-on capability was available only to attendant consoles (AC). Station Camp On for Meridian Business Set makes camp-on available to MBSs. Small customer groups that do not purchase an AC can use an MBS instead of the AC with this feature. The assignment of option MBSCAMP to the business set is through the Service Order System (SERVORD). The assignment of option MBSCAMP appears in table KSETFEAT (Business Set and Data Unit Feature).

> ***Note:*** The reference to a *group administrator* in this feature description is an MBS end user who has the camp-on capability.

Table CUSTSTN (Customer Group Station) identifies option MBSCAMPO (Meridian Business Set Camp-On) with an audio group name for a customer group. The audio source is announcement, music, silence, or ringing. The audio source allows the broadcast to the party while MBSCAMP is active. Table AUDIO (Audio Interlude) lists the type of broadcasts. Option LMOH (Line Music on Hold) allows an audio source different from the audio source for the customer group. Large customer groups can divide into smaller

Station Camp On for Meridian Business Set (continued)

business units with separate music on hold sources for each business unit. The assignment of option LMOH is made through SERVORD to the business set. The addition of option LMOH to a business set appears in table KSETFEAT (Business Set and Data Unit Feature). The assignment of option LMOH to a business set with option MBSCAMP defines a music source for the line. The customer group audio source applies for option MBSCAMPO if the assignment of option LMOH is not on the line.

The system uses the audio source in the table CUSTSTN for MBSCAMPO in the occurrences that follow:

- The assignment of option LMOH is on a line, but no entry for LMOH is input in table AUDIO.
- Option LMOH is not on a line.

Operation

Activation of camp-on

The following description illustrates how Station Camp On Meridian Business Set operates. The group administrator must have a Call Transfer (CXR) or Three-Way Call (3WC) key and an MBS camp-on (MBSCAMP) key.

- When the group administrator answers a call, the caller asks to have the call transferred to a third party. The group administrator presses the CXR or 3WC key and dials the third party.
- If the third party is idle, the call can continue as a CXR or a three-way calling (3WC) call. If the third party is busy and available for camp-on, the group administrator can camp the call onto the busy station. The group administrator knows the call can be camped on by the following indicators.
  - — The group administrator hears ring back tone or an audio treatment (silence, music, or an announcement).
  - — The MBSCAMP lamp lights on the MBS group administrator's telephone.
  - — The message `CAMP ON` displays if the group administrator's MBS has a display.

  When the busy party is not available for camp-on the group administrator hears a busy tone. For example, the busy party already has a call waiting. The group administrator can press the Release (RLS) key to release the busy tone. To return to conversation with the caller, the group administrator presses the Directory Number (DN) key
- The group administrator presses the CXR or 3WC key to conference in the caller. The caller, who is now camped on, hears the ringing or audio

treatment. The group administrator can hang up or press the RLS key to be disconnected from the call.

The group administrator can also camp on to a busy line if he or she wants to speak to a party. (The group administrator does not have to have a caller on the line to camp on to a busy line.)

Camp-on recalls

An MBSCAMP timer allows camped-on calls to be returned to the group administrator when the busy party does not answer in a specified time period. The MBSCAMP timer is datafilled for the customer group in table CUSTSTN (Customer Group Station Option). The timer can be set at 0 or 12 s to 240 s. If the timer is set at 0, then the call does not return to the group administrator but continues to wait on the busy station. If the timer is set at 12 s to 240 s, then the call is returned to the group administrator when the timer expires.

The MBSCAMP lamp flashes to alert the group administrator that a camped-on call is being returned. If the MBS has a display, the message `CAMP RECALL` is displayed. The group administrator then handles the recall the same as any other incoming call.

When a camped-on call is returned to the group administrator but the line is busy, the caller remains camped on to the third party for another cycle of the MBSCAMP timer.

Answering a camped-on call

If the busy party has a Call Waiting (CWT) key, then camped-on calls can be handled as CWT calls by the busy party. The CWT lamp flashes, and the busy party presses the CWT key to answer the call.

If the busy party does not have a CWT key but does have a 3WC or CXR key, then camped-on calls can be answered using the 3WC or CXR key, as explained in the following scenario:

- The group administrator camps a call onto busy party P1.
- P1 hears CWT tone and P1's 3WC or CXR key flashes.
- P1 presses the 3WC or CXR key to enter into a conversation with the camped-on caller. If P1 has an MBS display set, then the display shows the name and number of the camped-on caller. P1 can toggle between the camped-on call and the original call by pressing the 3WC or CXR key. P1 cannot conference the three parties together.
- If P1 presses the RLS key while talking to the previously camp-on caller, then the caller is disconnected and P1 returns to the conversation with the original party.

Station Camp On for Meridian Business Set (continued)

If the busy party P1 has neither a CWT key, a 3WC key, or a CXR key, then the only way to answer a camped-on call is to hang up. The set then rings, and P1 can answer the camped-on call.

Translations table flow

The first flowchart displays the translations process for Station Camp On Meridian Business Set. The flowchart and data show the flow of translations during call transfer for Station Camp On for Meridian Business Set. The second flowchart shows the process for assignment of option LMOH to a business set. Option LMOH can apply to a business set with MBSCAMP. Option LMOH applies different audio broadcasts for lines.

The description of Station Camp On for Meridian Business Set translations tables are in the list that follows:

- Table AUDIO (Audio Interlude) lists the type of broadcast, made up of silence, music, announcement, or ringing, given for features for IBN. Option MBSCAMP allows the broadcast to the party in an active camp-on session. Table AUDIO requires additional entries for multiple audio sources.
- Table CUSTSTN (Customer Group Station Option) is required for a switching unit with North American translations and IBN or Subscriber Services (SS) features. This table lists the station options for each customer group. The option MBSCAMPO (Meridian Business Set Camp-On) in table CUSTSTN requires a recall timer. The timer is set to 0 (no recall) or 12 to 240 s.
- Table KSETFEAT (Business Set and Data Unit Feature) defines the business set and data unit features. The addition of feature MBSCAMP to the business set is through SERVORD and automatically appears in table KSETFEAT. The addition of feature LMOH to the business set is through SERVORD and automatically appears in table KSETFEAT.
- Table KSETLINE (Business Set and Data Unit Line Assignment) contains data for directory number (DN) appearances on business sets and data units. The business set or data unit requires one entry in table KSETLINE for each DN key. The addition of option MBSCAMP to the business set is through SERVORD and automatically appears in table KSETLINE.
- Table LCCOPT (Line Class Code Option) is a read-only table and cannot be modified by the end user. When lines are added using the Service Order System (SERVORD), table LCCOPT is referenced to ensure the compatibility between line class code (LCC) and options and to ensure that incompatible options are not added to the same line. Table LCCOPT is changed to include option MBSCAMP as compatible with M2008,

Station Camp On for Meridian Business Set (continued)

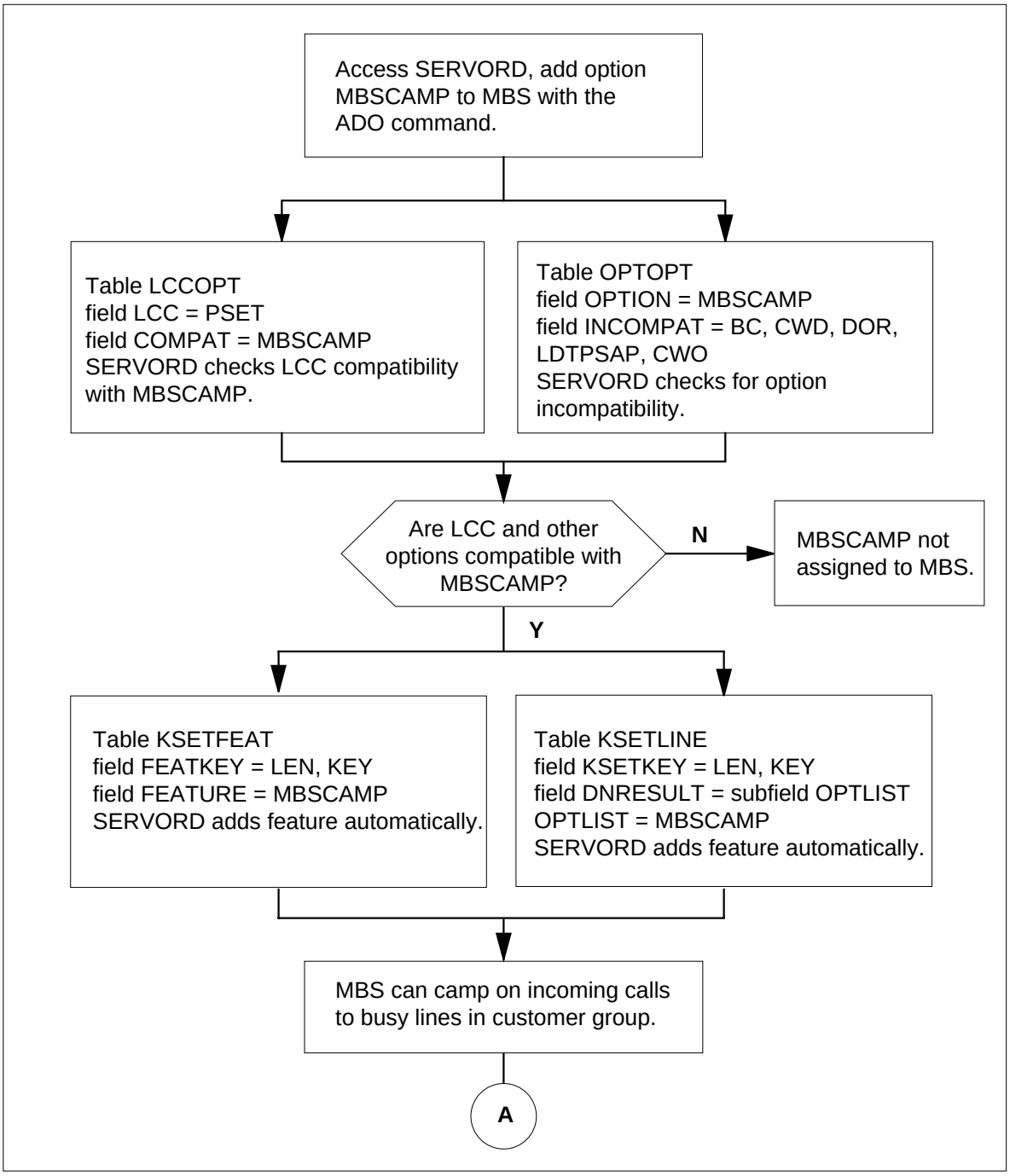
M2009, M2016S, M2018, M2112, M2216A, M2216B, M2317, M2616, M5009, M5112, M5209, and M5312 MBSs and proprietary business sets.

- Table OPTOPT (Incompatible Option) is a read-only table and cannot be modified by the end user. It lists incompatible line options for each line option. Table OPTOPT includes option MBSCAMP with a list of incompatible options.
- Table REASONS (Reasons) allows display of different feature and call progress information for the business sets with display capabilities. Table REASONS provides assignment of different reason sets for each end user group. The two default reasons, CAMP_ON and CAMP_ON_RECALL, are in table REASONS if a customer group has no entry for MBSCAMP.
- Table STN (Special Tone) is required for tones that require trunk cards and allows MBSCAMP to work to another MBS. A 3X68AC (call waiting tone generator circuit card) is required along with CWT datafill.

The datafill for table LCCOPT and table OPTOPT is an internal procedure. There are no datafill procedures or examples for table LCCOPT or table OPTOPT.

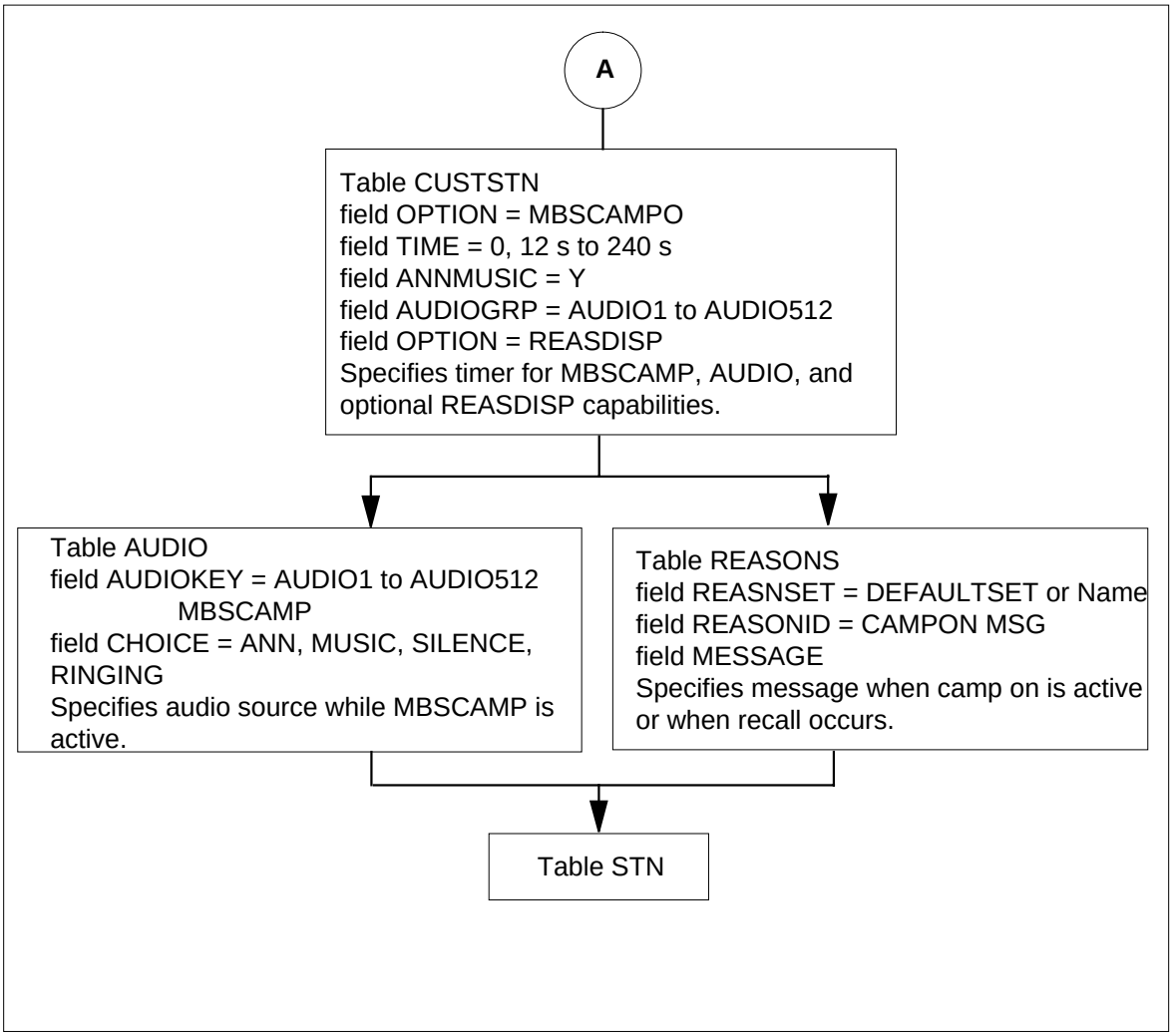
Station Camp On for Meridian Business Set (continued)

Summary of table flow for Station Camp On for Meridian Business Set (MBSCAMP)



Station Camp On for Meridian Business Set (continued)

Summary of table flow for Station Camp On for Meridian Business Set (MBSCAMP) (continued)



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

Datafill example for Station Camp On for Meridian Business Set (Sheet 1 of 2)

Datafill table	Example data
KSETFEAT	HOST 00 0 01 02 7 MBSCAMP MBSCAMP
KSETLINE	HOST 00 0 01 02 7 5552005 MDCGROUP1 0 0 919 (MBSCAMP)
CUSTSTN	MDCGRP1 MBSCAMPO MBSCAMPO 12 Y AUDIO1
AUDIO	AUDIO1 MBSCAMP MUSIC MUSICCLLI1 30 $

Station Camp On for Meridian Business Set (continued)

Datafill example for Station Camp On for Meridian Business Set (Sheet 2 of 2)

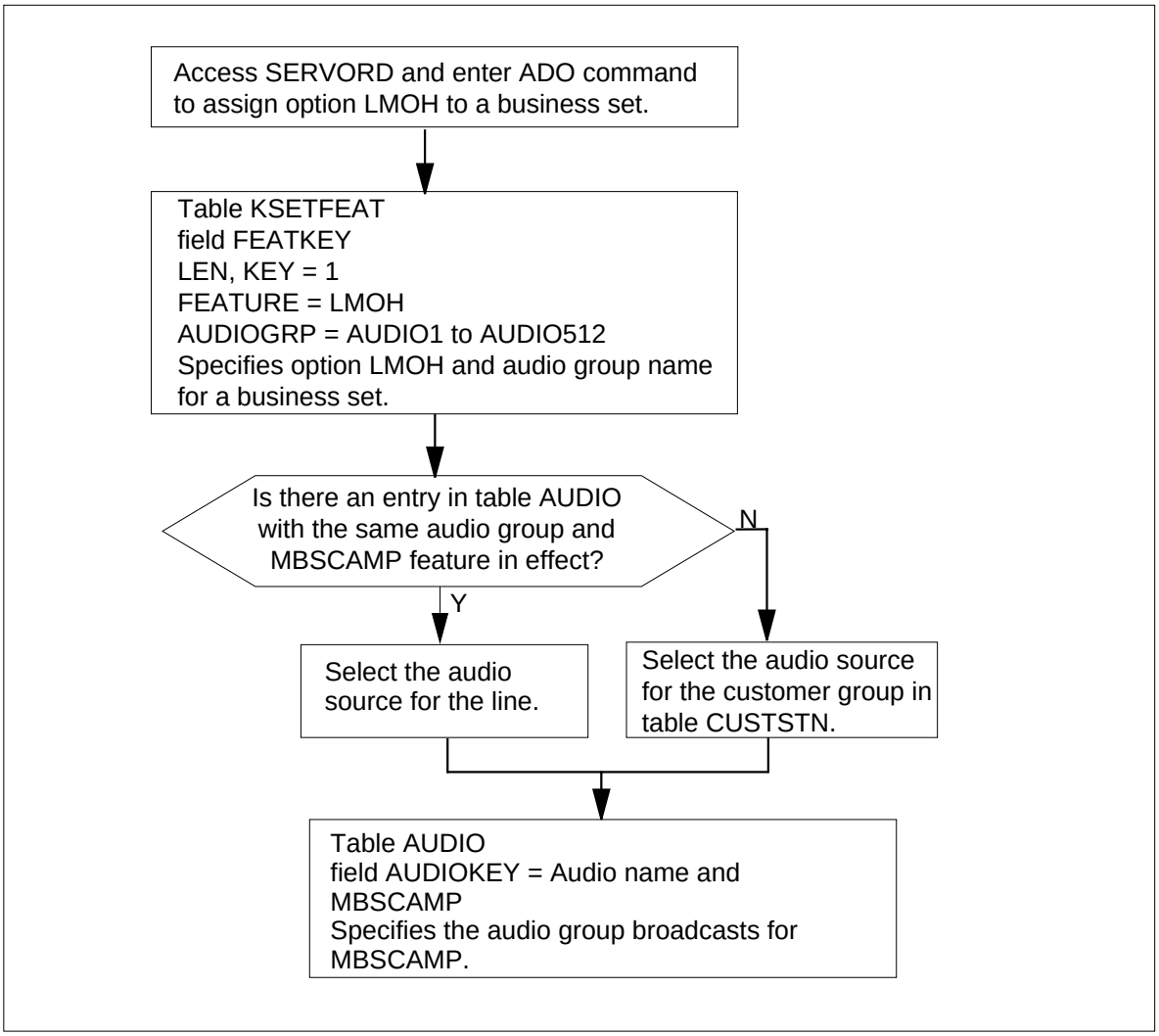
Datafill table	Example data
REASONS	DEFAULTSET CAMPONMSG CAMP_ON
STN	CWT 1 MTM 7 22 3X68AC 3 0

The Station Camp On for Meridian Business Set translations process appears in the flowchart that follows. The data shows the assignment of option LMOH with an audio source for a line. Option LMOH is valid on key 1 only of the business set. Option LMOH audio source broadcasts when the data entries include Station Camp On for Meridian Business Set and option LMOH. Otherwise, the customer group audio source broadcasts for Station Camp On for Meridian Business Set. Table AUDIO identifies all audio groups and broadcasts.

The flowchart and datafill example identifies the tables for option LMOH. The example shows additional entries in table AUDIO when option LMOH is on a business set with option MBSCAMP.

Station Camp On for Meridian Business Set (continued)

Summary of table flow for Station Camp On for Meridian Business Set (LMOH)



Datafill example for Station Camp On for Meridian Business Set

Datafill table	Example data
AUDIO	AUDIO1 MBSCAMP MUSIC MUSICCLLI 30 $
	AUDIO2 MBSCAMP MUSIC CWMUSICCLLI 20 $
KSETFEAT	HOST 00 0 01 04 7 MBSCAMP MBSCAMP
KSETFEAT	HOST 00 0 01 04 1 LMOH LMOH AUDIO2
CUSTSTN	MDCGRP1 MBSCAMPO MBSCAMPO 12 Y AUDIO1

Station Camp On for Meridian Business Set (continued)

Limitations and restrictions

The following limitations and restrictions apply to Station Camp On for Meridian Business Set:

- For Station Camp On to work to another MBS, a 3X68AC card is required along with CWT datafill in table STN.
- Option MBSCAMP is restricted to the following types of MBSs: M2008, M2009, M2016S, M2018, M2112, M2216A, M2216B, M2317, M2616, M5009, M5112, M5209, M5312, and proprietary business sets.
- Station Camp On Meridian Business Set can only be used to camp on to a line that is in the talking state.
- A maximum of one call can be camped on to a busy station.
- A group administrator can be a member of a uniform call distribution (UCD) group, but the recall goes to the line that transferred the call. The recall does not go into the UCD queue or hunt the UCD group.
- Option MBSCAMP is incompatible with the following options: BC, CWD, DOR, LTDPSAP, and CWO.
- Option MBSCAMP is not valid for assignment to keys above 9.
- Station Camp On Meridian Business Set cannot be assigned to 500/2500 sets because there is no visual indication when the camp-on occurs.
- An MBS with option MBSCAMP assigned must also have a 3WC or CXR key.
- A call cannot camp-on to a station that is a member of a conference call. The group administrator receives busy tone.

Interactions

The following paragraphs describe the interactions between Station Camp On for Meridian Business Set and other functionalities.

The following features interact with Station Camp On Meridian Business Set:

- Call Forward Busy

  If Call Forward Busy is active on the transferred-to station, the call is not forwarded, but is camped instead.

- Call Forward Universal and Call Forward Intragroup

  If Call Forwarding is active on the transferred-to station, the call is not camped, but is forwarded instead.

- Call Hold

Station Camp On for Meridian Business Set (continued)

Call Hold (CHD) has precedence over option MBSCAMP. If a call is camped on to a line with CHD whose party is engaged in conversation, CHD provides a tone and controls the call. When CHD takes control, the MBSCAMP timer is not started. The call stays with the CHD set until it is answered or the caller goes on-hook. If the caller of a line with CHD hears the tone, he or she can flash the hookswitch, dial the CHD code, and pick up the MBSCAMP call. Only one call can be held. A second call receives busy tone. If a CHD line is holding a call, the MBSCAMP call receives busy tone.

- Call Pickup

  Call Pickup (CPU) cannot be used to pick up a camped-on call.

- Call Transfer

  Call Transfer (CXR) that is set up for the line or group is used if a line with Station Camp On Meridian Business Set transfers a call to an idle line. If the call is transferred to a busy line, the MBSCAMP timer is used.

- Call Waiting

  If Call Waiting (CWT) is activated when a call is transferred from a group administrator to the busy line, camp-on is not applied. The transferred call receives busy tone.

  If there is no CWT, the call is camped on to the CWT key.

  If the group administrator has a CWT key, he or she cannot camp incoming calls on the CWT key.

- Call Waiting Exempt

  A call cannot camp on to a busy station that has Call Waiting Exempt (CWX).

- Do Not Disturb

  A call cannot camp on to a station that has Do Not Disturb (DND) activated.

- Emergency Service Bureau

  A call cannot camp on to a station that is talking to an emergency service bureau.

- Hunt groups

  A call cannot camp-on to a station that is in a hunt group. If a call is transferred to a hunt group, the call follows the hunting algorithm. A group administrator can be a member of a hunt group. However, when a camped call is recalled, the call is recalled to the group administrator. No hunting is performed.

Station Camp On for Meridian Business Set (continued)

- Key Short Hunt

  If the group administrator has option KSH (Key Short Hunt) and a camped call is recalled, the call hunts the KSH list and rings the idle key. If no key is idle, the recall timer is restarted, and the call keeps ringing the camped-on busy party.

- MBS Malicious Call Hold

  A call cannot camp on to a line that has MBS Malicious Call Hold (MCH) activated.

- Busy Lamp Field for Meridian Business Sets

  If a call terminating to a group administrator with option BLF (Busy Lamp Field) is requested to be transferred to a person in the MDC group, the group administrator can use option BLF to determine if the destination line is busy. The caller is given the option to stay in control. If the caller wishes to camp on, the group administrator calls the DN and receives silence, music, announcement, or ringing. The group administrator presses the 3WC or CXR key and conferences all parties. The group administrator presses the RLS key, and the call is camped on.

- Multiple Appearance Directory Number Single Call Arrangement

  When a call is camped on to a busy multiple appearance directory number (MADN) single call arrangement (SCA) (that is, a busy member), the call is camped on to a member of the SCA group. If the busy member puts a call on hold, a secondary member cannot retrieve the call. The camp-on applies to the busy member.

  If a group administrator transfers a call to a busy MADN with SCA, the call camps on to the busy member of the MADN group. If the group administrator is a member of an SCA MADN group, camp-on recalls only ring the group administrator, not the other members.

- Multiple Appearance Directory Number Multiple Call Arrangement

  If a group administrator transfers a call to a busy MADN with multiple call arrangement (MCA), the call camps on to the primary member of the MADN group.

  If the group administrator is a member of an MCA MADN group, camp-on recalls only ring the group administrator, not the other members.

- No Double Connect

  A call cannot camp on to a line that has option NDC (No Double Connect) assigned to it.

- Ring Again

If a busy line has a Ring Again (RAG) call activated against it and a group administrator accesses Station Camp On for Meridian Business Set on that line, option MBSCAMP takes priority. The end user of the station with the RAG call against it receives CWT tone. If the end user flashes the hookswitch (for a 500/2500 set) or presses the 3WC or CXR key (for an MBS), he or she enters into conversation with the group administrator or the party to which the group administrator transferred the call. When both the camped-on call and the original call have been concluded, RAG takes effect.

- Three-Way Calling

  A call can be camped on to a station that is a non-controlling party in a three-way call.

- 3-Way Call Chaining

  Station Camp On for Meridian Business Set and 3-Way Call Chaining are incompatible. If a call to a group administrator is involved in a three-way call chain, the group administrator cannot camp the call onto another line. The group administrator receives busy tone.

- Uniform Call Distribution

  The group administrator can be a member of a UCD group. Recalls return to the group administrator; they do not go into the UCD queue or hunt the UCD group.

Activation/deactivation by the end user

The following procedure shows the activation/ deactivation of Station Camp On for Meridian Business Set by the end user.

Activation/deactivation of Station Camp On for Meridian Business Set by the end user

At your telephone:

1. A caller asks to have the call transferred to a third party. The group administrator presses the CXR key or 3WC key.

   Response:

   The CXR or 3WC lamp turns on and the group administrator hears a dial tone.

2. The group administrator dials the DN of the third party.

   Response:

   The group administrator hears silence, music, an announcement, or ringing to indicate the line is busy. If the third party is available for

Station Camp On for Meridian Business Set (continued)

camp-on, the MBSCAMP lamp of the group administrator's set turns on. For MBSs with display, the message CAMP ON also appears.

> ***Note:*** When the third party is busy but is not available for camp on, the group administrator hears busy tone and the MBSCAMP key does not light. To return to the caller, the group administrator first must press the RLS key and then the DN key.

3. The group administrator presses the CXR or 3WC key to conference the caller into the call.

   Response:

   The camp-on caller hears the ringing or audio treatment (silence, music, or an announcement).

4. To complete the transfer, the group administrator hangs up the MBS handset or presses the RLS key.

   Response:

   The caller is now camped on to the busy station and is free to make and receive other calls. If the busy station does not answer the call within a certain time, the call may return to the caller. When this occurs, the MBSCAMP lamp flashes and the display reads `CAMP RECALL`.

Billing

Station Camp On for Meridian Business Set does not affect billing.

Station Message Detail Recording

Station Camp On for Meridian Business Set does not affect Station Message Detail Recording.

Datafilling office parameters

Station Camp On for Meridian Business Set does not affect office parameters.

Station Camp On for Meridian Business Set (continued)

Datafill sequence

The following table lists the tables that require datafill to implement Station Camp On for Meridian Business Set. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Station Camp On for Meridian Business Set

Table	Purpose of table
AUDIO(Note 1)	Audio Interlude. This table defines the audio treatments that a caller hears for different features.
CUSTSTN	Customer Group Station Option. This table defines the assignment of options to a customer group.
KSETFEAT(Note 2)	Business Set and Data Unit Feature. This table lists the assignment of line features for the business sets and data units in table KSETLINE.
KSETLINE(Note 2)	Business Set and Data Unit Line Assignment. This table contains data for DN appearances for business sets and data units.
REASONS	Business Set Reason Display. This table allows various feature and call progress information to be displayed on business set with display capabilities.
STN(Note 3)	Special Tone. This table allows MBSCAMP to work to another MBS.

Note 1: Datafill table AUDIO when the caller routes to an audio treatment such as music or announcement while camp-on is active.

Note 2: Enter data into this table through SERVORD. This document does not provide a datafill procedure.

Note 3: A 3X68AC card is required along with CWT datafill.

Datafilling table AUDIO

Table AUDIO (Audio Interlude) defines the audio treatments that a caller hears for different features. For Station Camp On for Meridian Business Set, table AUDIO defines the treatment a caller hears while camp-on is active. Enter data in table AUDIO if the call should route to a treatment such as music or announcement while camp-on is active.

> ***Note:*** Data Entries in tables ANNS (Announcements) and ANNMEMS (Announcement Members) are a requirement before table AUDIO. Tables ANNS and ANNMEMS define the announcement and music common language location identifiers (CLLI).

Table AUDIO contains a listing of the type of broadcast made up of silence, music, announcement, or ringing.

Station Camp On for Meridian Business Set (continued)

The following table shows the entries for Station Camp On for Meridian Business Set in table AUDIO. The table includes those fields that apply to Station Camp On for Meridian Business Set.

Datafilling table AUDIO (Sheet 1 of 2)

Field	Subfield	Entry	Explanation and action
AUDIOKEY		see subfields	Audio Key. This field includes subfields GROUP and FTRINDEX.
	GROUP	AUDIO1 to AUDIO512	Group. This subfield specifies the name of the audio group. Enter a name from AUDIO1 to AUDIO512.
	FTRINDEX	MBSCAMP	Feature Index. This subfield specifies the name of the feature that requires a broadcast. Enter MBSCAMP.
	CHOICE	ANN, MUSIC, SILENCE, RINGING, or REPEAT	Choice. This field defines the audio treatments the caller hears while camped on to a busy party. A sequence of up to 6 treatments can be datafilled. Enter ANN for announcement, MUSIC for continuous music, SILENCE for absence of music or announcement, RINGING for ringing, or REPEAT to repeat a sequence. If CHOICE is set to ANN, subfields AR, CYCLES, and ANNCLLI require datafill.
	AR	Y or N	Audible Ringing. This subfield specifies whether audible ringing is required prior to the announcement reaching the beginning of its cycle. Enter N if silence is preferred; enter Y if audible ringing is preferred.
	CYCLES	1 to 30	Announcement Cycles. This subfield specifies the number of cycles required. Enter a value from 1 to 30.
	ANNCLLI	common language location identifier	Announcement CLLI. This subfield specifies the CLLI of the announcement trunk from tables ANNS and ANNMEMS. Enter the CLLI. If CHOICE is set to MUSIC, subfields MUSICLLI and TIME require datafill.

Station Camp On for Meridian Business Set (continued)

Datafilling table AUDIO (Sheet 2 of 2)

Field	Subfield	Entry	Explanation and action
	MUSICLLI	common language location identifier	Music CLLI. This subfield specifies the CLLI of the audio trunk from tables ANNS and ANNMEMS. Enter the CLLI.
	TIME	0 to 1800	Time. This subfield specifies the delay threshold time. Enter a value from 0 to 1800. An entry of 0 provides continuous music and is only valid as the last entry. ***Note:*** If a music interval is set, it must be followed by silence or between announcements. If CHOICE is set to SILENCE, subfield TIME requires datafill.
	TIME	0 to 1800	Time. This subfield specifies the delay threshold time. Enter a value from 0 to 1800. An entry of 0 provides continuous music and is only valid as the last entry. If CHOICE is set to RINGING, subfield TIME requires datafill.
	TIME	0 to 1800	Time. This subfield specifies the delay threshold time. Enter a value from 0 to 1800. An entry of 0 provides continuous music and is only valid as the last entry.
ROUTES		2 to 4	Routes. This field specifies the route number at which the repeat sequence begins. Enter a value from 2 to 4.

Datafill example for table AUDIO

The following example shows sample datafill for table AUDIO.

MAP display example for table AUDIO

```
AUDIOKEY              ROUTES
_____________________________________________________
AUDIO1   MBSCAMP ( MUSIC REGMUSIC 20) (SILENCE 0) $
AUDIO2   MBSCAMP (MUSIC CWMUSICCLLI 30) $
```

Station Camp On for Meridian Business Set (continued)

Datafilling table CUSTSTN

Table CUSTSTN (Customer Group Station Option) defines the options for a customer group. For Station Camp On for Meridian Business Set, table CUSTSTN defines the MBSCAMP timer and the type of treatment a caller hears when camp-on is active.

A switching unit for North American translations and IBN or Subscriber Services (RES) features requires table CUSTSTN. This table lists the station options for each customer group.

The following table shows the datafill specific to Station Camp On for Meridian Business Set for table CUSTSTN. The table shows only those fields that apply directly to Station Camp On for Meridian Business Set.

Datafilling table CUSTSTN (Sheet 1 of 2)

Field	Subfield	Entry	Explanation and action
CUSTNAME		alphanumeric	Customer Group Name. This field specifies the name of the customer group. Enter a 1- to 16-character alphanumeric name.
OPTNAME		MBSCAMPO	Option Name. This field specifies the options assigned to the customer group. Enter MBSCAMPO to assign an MBSCAMP timer to the customer group.
OPTION		MBSCAMPO	Option. This field specifies the name of the option. Enter MBSCAMPO. If OPTION is set to MBSCAMPO, subfields MBSCAMPT and ANNMUSIC require datafill.
	MBSCAMPT	12 to 240, or 0	Meridian Business Set Camp-on Timer. This subfield specifies the number of seconds for the MBSCAMP timer. Enter a value from 12 to 240, or 0. If 0 is entered, camped-on calls return to the MBS. If a value from 12 to 240 is entered, camped-on calls return to the MBS when the timer expires.
	ANNMUSIC	Y or N	Announcement or Music. This subfield specifies whether the caller hears audio treatment while waiting for the busy station to answer. Enter Y or N. If N is entered, the caller hears ringing.

Station Camp On for Meridian Business Set (continued)

Datafilling table CUSTSTN (Sheet 2 of 2)

Field	Subfield	Entry	Explanation and action
			If ANNMUSIC is set to Y, subfield AUDIOGRP requires datafill.
	AUDIOGRP	AUDIO1 to AUDIO512	Audio Group. This subfield specifies the audio group from table AUDIO that is to be played while the caller is waiting for the busy station to answer. Enter a value from AUDIO1 to AUDIO512.

Datafill example for table CUSTSTN

The following example shows sample datafill for table CUSTSTN.

MAP display example for table CUSTSTN

```
CUSTNAME OPTNAME     OPTION
_____________________________________________________
MDCGRP1  MBSCAMPO    MBSCAMPO 12 Y   AUDIO1
```

Datafilling table REASONS

Table REASONS (Business Set Reason Display) allows feature and call progress information to display on MBSs with display capabilities. The reason sets provide each end user group with distinct reason sets. The data in table REASONS includes two DEFAULTSET reasons, CAMP_ON and CAMP_ON_RECALL.

The following table shows the datafill specific to Station Camp On for Meridian Business Set for table REASONS. The table shows those fields that apply directly to Station Camp On for Meridian Business Set.

Datafilling table REASONS (Sheet 1 of 2)

Field	Subfield	Entry	Explanation and action
REASNSET		alphanumeric	Reason Set. This field indicates the name of the set of reasons. Enter a 1- to 16-character alphanumeric name. The default value is DEFAULTSET.

Station Camp On for Meridian Business Set (continued)

Datafilling table REASONS (Sheet 2 of 2)

Field	Subfield	Entry	Explanation and action
REASONID		CAMPONMSG or CAMPRLMSG	Reason Identification. This field specifies the name of the reason. Enter CAMPONMSG or CAMPRLMSG.
MESSAGE		CAMP_ON or CAMP_ON_ RECALL	Displayed Message. This field specifies the descriptive message for the option being programmed. Enter CAMP_ON if REASONID was set to CAMPONMSG; enter CAMP_ON_RECALL if REASONID was set to CAMPRLMSG.

Datafill example for table REASONS

The following example shows sample datafill for table REASONS.

MAP display example for table REASONS

```
REASNSET        REASONID        MESSAGE
---------------------------------------------------------
DEFAULTSET      CAMPONMSG       CAMP_ON
```

Datafilling table STN

Table STN (Special Tone) lists the location and the maximum number of connections for the 3X68AC card. Table STN also shows the CWT data for Station Camp On to function with another MBS. The fixed code is CWT for the tone generator CWT with PEC NT3X68AC.

After datafilling table STN, the trunk circuit must be busied and returned to service.

Station Camp On for Meridian Business Set (continued)

The following table shows the datafill specific to Station Camp On for Meridian Business Set for table STN. The table shows the fields that apply directly to Station Camp On for Meridian Business Set.

Datafilling table STN

Field	Subfield	Entry	Explanation and action
SK		see subfields	Special tone key. This field is consists of subfields TONE and MEMBER.
	TONE	CWT	Tone. This field specifies the appropriate fixed code (TONE_INDEX) assigned to the tone trunk circuit in table CLLI. Enter CWT (Call Waiting).
	MEMBER	0 to 999	Member number. Enter the member number assigned to the tone trunk circuit.
TMTYPE		MMA, MTM, or STM	Trunk module type. Enter the trunk module where this trunk circuit is located.
TMNO		0 to 255	Trunk module number. Enter the number assigned to the maintenance or service trunk module on which the tone trunk circuit is located.
TMCKTNO		0 to 29	Trunk module circuit number. Enter the trunk module circuit number on the maintenance or service trunk module to which the tone trunk circuit is assigned.
CARDCODE		3X68AC	Card code. Enter tone trunk circuit product engineering code (PEC) 3X68AC.
MAXCONN		0 to 255	Maximum connections. Enter the maximum number of simultaneous connections that are allowed to be made to the tone trunk circuit.
TRAFSNO		0 to 127	Traffic separation number. If the switching unit is local, or local and toll, enter the outgoing traffic separation number assigned to the tone. If it is not required, enter 0 (zero).
Note: After datafilling the table, the trunk circuit must be busied and returned to service.			

Datafill example for table STN

The following example shows sample datafill for table STN.

Station Camp On for Meridian Business Set (continued)

MAP display example for table STN

```
CWT  1
_____________________________________________________________
            MTM     7       22      3X68AC      3       0
```

Translation verification tools

Station Camp On for Meridian Business Set does not use translation verification tools.

SERVORD

Option MBSCAMP is added to the Service Order System (SERVORD) to enable camp-on to be assigned to an MBS.

Line Music on Hold (LMOH) uses the Service Order System.

Table KSETFEAT

Table KSETFEAT (Business Set and Data Unit Feature) lists the line features for the business sets and data units. Table KSETLINE and table IVDIN (Integrated Voice and Data Set Inventory) lists the line assignments for business sets and data units. When option MBSCAMP is present on a set, it allows the set to work as a group administrator. The addition of option LMOH to a business set appears in table KSETFEAT.

SERVORD limitations and restrictions

Station Camp On for Meridian Business Set has SERVORD limitations and restrictions.

Station Camp On for Meridian Business Set (continued)

The following SERVORD limitations and restrictions apply to LMOH.

- LMOH is compatible with the line class codes (LCC) that follow:
  - IBN 500/2500 set
  - PSET (Proprietary Business Set) with or without display (all of the M5000 series)
  - M5008 - Meridian business set (MBS) with 8 keys and no display
  - M5009 - MBS with 9 keys and no display
  - M5112 - MBS with 12 keys and display
  - M5208 - MBS with 8 keys and display
  - M5209 - MBS with 9 keys and display
  - M5212 - MBS with 12 keys and display
  - M5216 - MBS with 16 keys and display
  - M5316 - MBS with 16 keys, display, and hands free
  - ISDNKSET (function NI-1 and NI-2)
- The LCCs that follow do not permit assignment of option LMOH:
  - RES (Residential Enhanced Services)
  - RES/one-party flat rate (1FR) POTS line converts to RES
  - RES/coin first (CCF) POTS coin line converts to RES
  - RES/coin dial-tone first (CDF) POTS coin line converts to RES
  - RES/coin semipostpay (CSP) POTS line converts to RES
  - RES/ one-party message rate (1MR) line converts to RES
- The SERVORD commands that follow support the line option LMOH:
  - ADO (add option)
  - CHF (change feature)
  - DEO (delete option)
  - NEW (new directory number)
  - EST (establish a hunt group)

Station Camp On for Meridian Business Set (continued)

SERVORD prompts

The following table shows the SERVORD prompts used to assign Station Camp On for Meridian Business Set to a line.

SERVORD prompts for Station Camp On for Meridian Business Set

Prompt	Valid input	Explanation
OPTKEY	1 to 69	Specifies the key on an MBS to which the option is to be assigned. Enter a value from 1 to 69. ***Note:*** The entry for OPTKEY cannot be a DN key.
OPTION	MBSCAMP	Specifies the option to be assigned to a line. Enter MBSCAMP.
Note 1: In order for Station Camp On for Meridian Business Set to work, the MBS must also have option CXR or 3WC assigned. ***Note 2:*** Table KSETFEAT is automatically datafilled when Station Camp On Meridian Business Set is assigned using SERVORD.		

Options BC, CWD, CWO, DOR, and LDTPSAP are incompatible with Station Camp On for Meridian Business Set. These options cannot be assigned to a line that has option MBSCAMP.

Option MBSCAMP can be assigned to lines that have any of the following line class codes: M2008, M2009, M2016S, M2018, M2112, M2216A, M2216B, M2317, M2616, M5009, M5112, M5209, M5312, and proprietary business set.

The following table shows the SERVORD prompts to assign option LMOH to a business set with MBSCAMP. Option LMOH allows different music sources for each line.

SERVORD prompts for option LMOH

Prompt	Valid input	Explanation
OPTION	LMOH	Defines the option assignment for the line.
AUDIOGRP	AUDIO1 to AUDIO512	Defines the audio group name.

Note: The system enters data in table KSETFEAT when assignment of LMOH occurs to a business set through SERVORD.

Station Camp On for Meridian Business Set (continued)

SERVORD example for assigning Station Camp On for Meridian Business Set

The following SERVORD example shows how Station Camp On for Meridian Business Set is assigned to an existing MBS using the ADO (add option) command. In this example, option MBSCAMP is added to feature key number 7 on the set.

Note: Station Camp On for Meridian Business Set cannot be assigned to a DN key.

SERVORD example for Station Camp On for Meridian Business Set in prompt mode

```
>ADO
SONUMBER:     NOW  90  1  2 AM
>
DN_OR_LEN:
> 0 0 8 6
OPTKEY:
> 7
OPTION:
> MBSCAMP
OPTKEY:
> $
```

SERVORD example for Station Camp On for Meridian Business Set in no-prompt mode

```
> ADO $ 0 0 8 6 7 MBSCAMP $
```

SERVORD example for adding option LMOH to a business se

The following SERVORD example adds option LMOH to a business set with the ADO SERVORD command.

Station Camp On for Meridian Business Set (end)

SERVORD example for option LMOH in prompt mode

```
>ADO
SONUMBER:  NOW 98 11 09  AM
>
DN_OR_LEN:
> 0 0 01 15
OPTKEY:
> 1
OPTION:
> LMOH
AUDIOGRP:
> AUDIO2
OPTION:
> $
```

SERVORD example for option LMOH in no-prompt mod

```
> ADO $  00 0 01 15  1  LMOH  AUDIO2 $
```

3 Datafilling MDC Tailored MDC 2

The following chapter describes the MDC Tailored MDC 2, MDC00013, functionality.

Direct Station Selection/Busy Lamp Field for MBS

Ordering codes

Functional group ordering code: MDC00013

Functionality ordering code: not applicable

Release applicability

BCS31 and up

Prerequisites

To operate, Direct Station Selection/Busy Lamp Field for MBS has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC MBS Minimum, MDC00007

Description

Direct Station Selection/Busy Lamp Field for MBS provides the following capabilities.

- Busy lamp field (BLF) enables a Meridian business set (MBS) end user to determine if a directory number (DN) is idle or busy by monitoring the state of the lamp next to the assigned feature key. This lamp is on when the DN is busy or off when the DN is idle.
- Direct station select (DSS) enables the end user of the monitoring set to press the specified feature key to dial the monitored DN directly.
- In addition, Power Features (PF), a display application by which an end user can change data attributes associated with an MBS with a display, can be used to add or delete a BLF DN. MBSs with a 2-by-24-character display (such as an M5209 or an M5312) or with a 2-by-40-character display (such as an M5317T) can be used.

Operation

Busy lamp field

When option BLF is assigned to a key, the lamp state of the monitored DN is updated in 5 s.

The lamp is on if the DN is the following:

- off-hook
- dialing digits

- receiving physical ringing due to termination or recall
- using make set busy (MSB) or do not disturb (DND)
- active on a call (such as talking, receiving treatment, or any type of hold)

The lamp is off if the DN is

- on-hook
- taken out of service. The DN can be taken out of service by the OUT (remove service) command in the Service Order System (SERVORD) or by the MANB (manual busy) command in line maintenance. A BLF call made to an out-of-service DN receives negative acknowledgment (NACK) treatment.

Direct station select

The DSS capability enables the end user to transfer calls or establish three-way calls to a monitored DN by pressing the DN key followed by the BLF key associated with the monitored DN. Instead of manually dialing the DN digits of the monitored set, the end user presses the BLF key to transfer a call or establish a three-way call or a conference call.

Refer to “Activation/deactivation by the end user" in this feature description for the procedure for transferring calls or establishing three-way calls using the DSS capability.

User interface

Query commands QDN (query directory number) and QLEN (query line equipment number) are modified to output the appropriate BLF feature data for a monitoring set.

Translations table flow

The Direct Station Selection/Busy Lamp Field for MBS translations tables are described in the following list:

- Table KSETLINE (Business Set and Data Unit Line Assignment) defines the business set and data unit numbers supported by the switch and the hardware options assigned to each. This table is datafilled when the line is assigned in SERVORD.

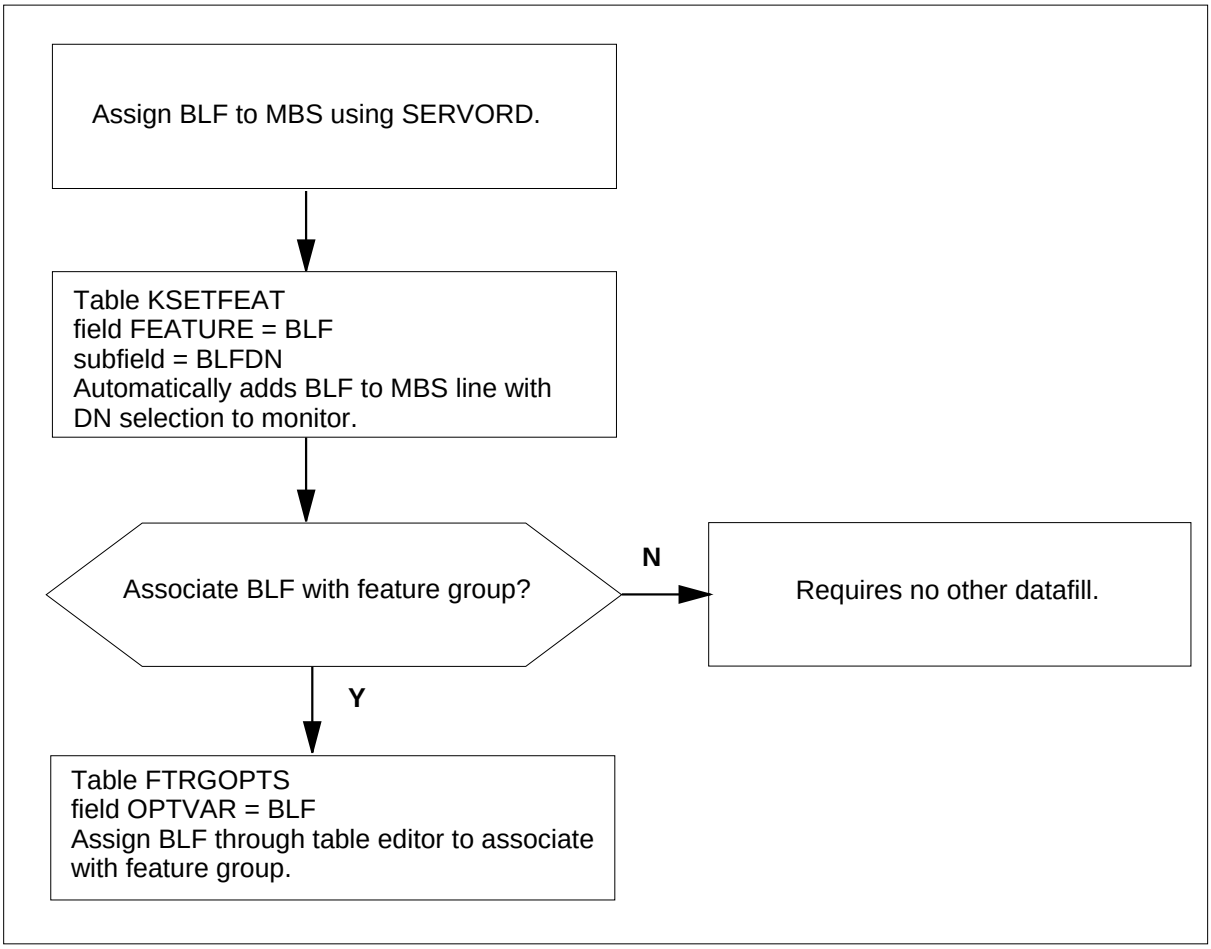
  Note: Direct Station Selection/Busy Lamp Field for MBS requires that Table KSETLINE be datafilled to assign a line equipment number (LEN).

- Table FTRGOPTS (Feature Group Options) is used to assign line options to all feature groups defined in an office. Feature groups also support

Direct Station Selection/Busy Lamp Field for MBS (continued)

option BLF, which can be assigned to a feature group in Table FTRGOPTS. Option BLF does not require additional data and can be assigned to a feature group in a single tuple.

Translations data flow for activating Direct Station Selection/Busy Lamp Field for MBS



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

Datafill example for Direct Station Selection/Busy Lamp Field for MBS

Datafill table	Example data
KSETFEAT	00 1 02 03 5 BLF BLF 2455
FTRGOPTS	MDCGRP1 OPTS OPTS BLF 3WC CWT $

Direct Station Selection/Busy Lamp Field for MBS (continued)

Activation/deactivation by the end user

Direct Station Selection/Busy Lamp Field for MBS can be used for direct calling or transferring calls, as described in the following paragraphs. In addition, the PF capability can be used to change the DN associated with the BLF key.

Direct calling by an MBS end user

While calling a monitored DN, an MBS end user notes that the lamp light associated with the DN is not lit. He or she presses a DN key and then the BLF key associated with the DN.

Transferring calls

The procedure to transfer a call or establish a three-way call using the BLF key is the same procedure as if the monitored DN was dialed directly. The end user presses the three-way call (3WC) key and hears a special dial tone. The end user then presses the BLF key and executes one of the following steps:

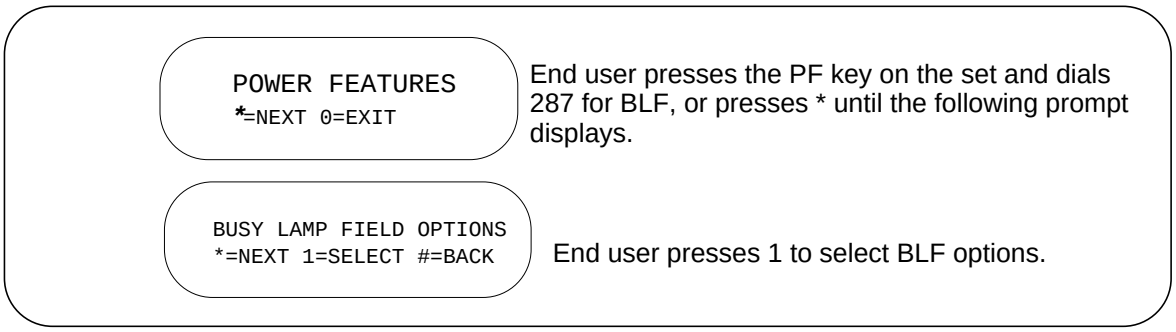
- transfers the call by pressing the 3WC key and then presses the Release (RLS) key
- waits for the set of the monitored DN to be answered to establish a three-way call
- alternates between the parties by pressing the active DN key and the 3WC key

Power Features

Power Features enables the end user to add a BLF key to the set, remove a BLF key from a set, or change the DN on an existing BLF key. The following figures display examples of selecting, adding, deleting, and changing BLF options on several MBSs with a display.

- The following figure shows how an end user selects BLF options on an M5209 or M5312 set.

Selecting BLF options



Direct Station Selection/Busy Lamp Field for MBS (continued)

After selecting BLF from PF, an end user can add a BLF key to the set. The following figure shows how an end user adds a BLF key to an M5209 or M5312 set.

Direct Station Selection/Busy Lamp Field for MBS (continued)

Adding a BLF key to an M5209 or M5312 set

```
BUSY LAMP FIELD OPTIONS
1=ADD 2=DEL/CHG 0=EXIT
```

End user presses 1 to add BLF to a feature key.

```
CHOOSE BLANK KEY
0=EXIT
```

End user presses a feature key.

```
MUST CHOOSE BLANK KEY
0=EXIT
```

This message appears if an end user presses a non–blank feature key.

```
ENTER 7 DIGIT NUMBER
*=<-- HOLD=OK
```

After selecting a blank feature key, an end user enters a 7-digit DN.

```
2435826
*=<-- HOLD=OK
```

End user presses the HOLD key.

Note: The serving numbering plan area (SNPA) defaults to the set's SNPA.

```
KEY ADDED
CONTINUE? 1=YES 2=NO
```

Once the BLF key is added, the end user is prompted to continue adding other keys, or can exit by pressing 2.

```
KEY NOT ADDED
CONTINUE? 1=YES 2=NO
```

Or if option BLF was not successfully added to a feature key, this prompt displays and the end user can select 1 to repeat the procedure.

Direct Station Selection/Busy Lamp Field for MBS (continued)

Deleting a BLF key from an M5209 or M5312 set

`BUSY LAMP FIELD OPTIONS` `1=ADD 2=DEL/CHG 0=EXIT`	End user presses 2 to delete or change a BLF DN.
`2535826` `*=NEXT #=BACK 7=MORE`	The set displays the first BLF DN and lights the corresponding keys. End user presses * to view following DN, or end user presses # to view previous DN. End user presses 7 when desired BLF DN is displayed.
`2535826` `1=DELETE 2=CHANGE 7=MORE`	End user presses 1 to delete the currently displayed BLF feature key.
`DELETE KEY?` `1=YES 2=NO`	End user presses 1 to delete this key.
`KEY DELETED` `CONTINUE? 1=YES 2=NO`	Once the BLF key is deleted, the end user is prompted to continue deleting other keys, or can exit by pressing 2.
`KEY NOT DELETED` `CONTINUE? 1=YES 2=NO`	If the BLF key was not successfully deleted, this prompt displays and the end user can select 1 to repeat the procedure.

Direct Station Selection/Busy Lamp Field for MBS (continued)

Changing the DN of a BLF key on an M5209 or M5312 set

```
BUSY LAMP FIELD OPTIONS
1=ADD 2=DEL/CHG 0=EXIT
```

End user presses 2 to change or delete a BLF key.

```
-------
1=DELETE 2=CHANGE 7=MORE
```

End user presses 2 to change the DN on BLF key.

Note: NEXT and BACK are not available because only one BLF key is assigned to the set. This key has no DN associated with it.

```
ENTER 7 DIGIT NUMBER
*=<-- HOLD=OK
```

The display prompts the end user to enter a DN.

```
243-
*=<-- HOLD=OK
```

End user begins entering a DN and presses HOLD.

```
INVALID NUMBER
REENTER? 1=YES 2=NO
```

Direct Station Selection/Busy Lamp Field for MBS requires a 7-digit DN. End user presses 1 to rekey the entry.

```
ENTER 7 DIGIT NUMBER
*=<-- HOLD=OK
```

The display prompts the end user to enter a DN.

```
2431234
*=<-- HOLD=OK
```

End user enters a 7-digit DN and presses HOLD.

```
KEY CHANGED
CONTINUE? 1=YES 2=NO
```

Once the BLF key is changed, the end user is prompted to continue changing other keys, or can exit by pressing 2.

```
KEY NOT CHANGED
CONTINUE? 1=YES 2=NO
```

If option BLF was not successfully changed, this prompt displays and the end user can select 1 to repeat the procedure.

Direct Station Selection/Busy Lamp Field for MBS (continued)

Changing the DN on a BLF key on an M5317T set

```
POWER FEATURES
NEXT  EXIT
```

End user presses NEXT softkey until the following prompt displays.

```
BUSY LAMP FIELD
NEXT   SELECT   BACK   EXIT
```

```
USE PHONE      CONTINUE
```

```
BUSY LAMP FIELD OPTIONS
ADD   DEL/CHG  EXIT
```

End user presses DEL/CHG softkey.

```
1234567
NEXT   BACK     DELETE  CHANGE  EXIT
```

End user presses CHANGE softkey.

```
ENTER 7 DIGIT NUMBER
<--        OK
```

Direct Station Selection/Busy Lamp Field for MBS (continued)

Changing the DN on a BLF key on an M5317T set

```
826
<------  OK
```

End user accidentally enters a 3-digit DN and presses OK softkey.

```
INVALID NUMBER REENTER?
YES     NO
```

Direct Station Selection/Busy Lamp Field for MBS requires a 7-digit DN. End user presses YES softkey to rekey the entry.

```
8261212
<--     OK
```

End user enters a valid 7-digit DN and presses OK softkey.

```
KEY CHANGED
CONTINUE? YES    NO
```

End user presses NO softkey to exit the session.

Direct Station Selection/Busy Lamp Field for MBS (continued)

Limitations and restrictions

The following limitations and restrictions apply to Direct Station Selection/Busy Lamp Field for MBS:

- Direct Station Selection/Busy Lamp Field for MBS can only be assigned to feature keys with an associated lamp since option BLF is datafilled in SERVORD.
- A monitored set must belong to the same customer group family and node (switch) as the primary directory number (PDN) of the monitoring set. To ensure successful termination of calls using the BLF key, the DN key that is selected before the BLF key must be either a PDN or in the same customer group family as the PDN.
- Option BLF can be assigned to any number of key/lamp pairs on an MBS or on an add-on module, while a given DN can be monitored simultaneously by a maximum of eight BLF keys.
- To assign a BLF key to an MBS for a feature group, option BLF must be assigned to the feature group.
- A plain old telephone service (POTS) line cannot be monitored by Direct Station Selection/Busy Lamp Field for MBS.
- Because the lamp state is updated every 5 s, it is possible that this slight delay could cause the light to shine incorrectly. If the system is overloaded, updating of the lamp states can take longer, and it is possible to lose the lamp states altogether. Activation of other feature services, like Call Waiting (CWT) and Call Forwarding (CFW), can affect Direct Station Selection/Busy Lamp Field for MBS.
- Direct Station Selection/Busy Lamp Field for MBS cannot monitor an additional function call (AFC) DN.
- Direct Station Selection/Busy Lamp Field cannot monitor DNs that are not associated with a LEN or physical set. The following DNs cannot be monitored:
  - Meet-me Conference
  - Direct Inward System Access
  - Preset conference
  - Attendant console
  - Automatic call distribution group and incalls key
  - Uniform Call Distribution group
  - Synonymous DNs
  - Teen Service

Direct Station Selection/Busy Lamp Field for MBS (continued)

- Direct Station Selection/Busy Lamp Field for MBS is available for the following line classes:
  - PSET
  - M5009
  - M5209
  - M5112
  - M5312
  - IVD sets (M2000s and M3000s)
  - ISDN (MFT only)
- Monitored DNs can be on the following sets:
  - 500/2500 IBN set
  - PSET
  - M5009
  - M5209
  - M5112
  - M5312
  - IVD set (M2000s and M3000s)
  - ISDN (MFT only)
  - Monitoring of a MADN SCA group without a primary member is not supported.

Interactions

The following features interact with Direct Station Selection/Busy Lamp Field for MBS.

Automatic Call Back

Automatic call back (ACB) cannot be used to recall a BLF call.

Last Number Redial

Last number redial (LNR) cannot be used to recall a BLF call.

Direct Station Selection/Busy Lamp Field for MBS (continued)

Call Forwarding

The following interactions apply to CFW:

- The BLF indicates the status of the monitored DN rather than the forwarding DN.

  In general, CFW is transparent to the BLF key.

- The BLF key cannot be used to program CFW. If the monitoring set is in the CFW programming mode and the BLF key is pressed, nothing happens.

Call Park/Directed Call Park

An MBS end user can use the BLF key to park a call against a BLF DN and retrieve a parked call. For both cases, the end user presses the (directed) call park key, receives a special dial tone, and presses the BLF key.

Call Waiting

The BLF lamp stays lit for any busy DN, even if CWT is active.

Any DSS calls to stations with CWT (with or without 3WC) operate the same as non-DSS calls transferred to stations with CWT.

Display feature

If a monitoring set has the display feature and the BLF key is pressed, the display shows information from the monitored set.

Hunt groups

Direct Station Selection/Busy Lamp Field for MBS monitors only the hunt pilots and members that have individual DNs within the hunt group. These hunt groups include DNH, BNN, PRH, or KSH. Direct Station Selection/Busy Lamp Field for MBS does not monitor MLH, DLH, or MPH DNs.

Make Set Busy

When an end user of a monitored DN activates option MSB, the BLF lamp shows the monitored DN as busy.

Line maintenance

The BLF updates recover after line maintenance is performed on the BLF monitored DNs and the monitoring sets.

Inspect

When Direct Station Selection/Busy Lamp Field for MBS is active, an end user can verify a monitored DN by pressing the INSPECT key and then the

associated BLF key. The display includes the BLF feature name and the DN of the monitored DN.

Do Not Disturb

When an end user of a monitored DN activates option DND, the BLF lamp shows the monitored DN as busy.

Message Waiting Query

To query the message waiting status of a monitored DN, an MBS end user must press the Message Waiting Query (MWQRY) key and press the BLF key, instead of dialing the DN of the line to be queried.

Multiple Appearance Directory Number

When a switch computer application (SCA) DN is monitored, the BLF lamp shows the status of the entire multiple appearance directory number (MADN) group. If any member of an SCA group is involved in a call, the BLF lamp shows that the monitored DN is busy. All other MADN group states, such as group busy, MADN hold, or group ringing, also light the lamp.

Direct Station Selection/Busy Lamp Field for MBS cannot monitor a multiple call arrangement (MCA) DN.

Ring Again

Ring Again (RAG) cannot be used to recall a BLF call. If an end user presses the DN key of a monitored DN and then presses the RAG key, a treatment results.

Station Controlled Conference

The BLF feature key can be used to establish or add a station controlled conference (SCC).

Uniform Call Distribution

Direct Station Selection/Busy Lamp Field for MBS can only monitor the individual DNs (or agents) in a uniform call distribution (UCD) group. The group DN is not monitored.

Billing

Direct Station Selection/Busy Lamp Field for MBS does not affect billing.

Station Message Detail Recording

Direct Station Selection/Busy Lamp Field for MBS does not affect Station Message Detail Recording.

Direct Station Selection/Busy Lamp Field for MBS (continued)

Datafilling office parameters

Direct Station Selection/Busy Lamp Field for MBS does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement Direct Station Selection/Busy Lamp Field for MBS. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Direct Station Selection/Busy Lamp Field for MBS

Table	Purpose of table
KSETFEAT	Business Set and Data Unit Feature Table. 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. ***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.
FTRGOPTS	Feature Group Options Table. This table is used to assign line options to all feature groups defined in an office.

Datafilling table FTRGOPTS

Table FTRGOPTS (Feature Group Options) is used to assign line options to all feature groups defined in an office. Option BLF does not require additional data and can be assigned to a feature group in a single tuple.

The following table shows the datafill specific to Direct Station Selection/Busy Lamp Field for MBS for table FTRGOPTS. Only those fields that apply directly to Direct Station Selection/Busy Lamp Field for MBS are shown. For

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

Datafilling table FTRGOPTS

Field	Subfield or refinement	Entry	Explanation and action
FTRGRP		alphanumeric	Feature Group Name. This field specifies the name of the feature group to which the option is to be assigned. Enter the 1- to 16-alphanumeric feature group name.
OPTION		OPTS	Option. This field specifies the option. Enter OPTS.
OPTVAR		see subfields	Option Variable Area. This field consists of subfields OPTION and OPTLIST.
	OPTION	OPTS	Option. This subfield specifies the option. Enter OPTS.
	OPTLIST	BLF	Option List. This subfield specifies the option list. Enter BLF.

Datafill example for table FTRGOPTS

The following example shows sample datafill for Table FTRGOPTS. In the example, options BLF, 3WC, and CWT are assigned to feature group MDCGRP1.

MAP display example for table FTRGOPTS

```
FTRGRP  OPTION  OPTION  OPTLIST
----------------------------------------------------
MDCGRP1 OPTS        OPTS        BLF 3WC CWT  $
```

Translation verification tools

Direct Station Selection/Busy Lamp Field for MBS does not use translation verification tools.

SERVORD

Line option BLF is added through the Service Order System (SERVORD) using the NEW (establish service) and ADO (add option) commands. Subfield BLFDN specifies the BLF DN to be monitored. A monitored DN must be ten

Direct Station Selection/Busy Lamp Field for MBS (continued)

digits and is entered at the time Direct Station Selection/Busy Lamp Field for MBS is assigned.

When any of the following SERVORD operations is executed on a monitored DN, the original line associated with the DN is no longer monitored by Direct Station Selection/Busy Lamp Field for MBS:

- removing a monitored DN from service using the OUT (remove service) or DEL (delete line from a hunt group) command
- replacing a monitored DN by an unused DN using the CDN (change DN) command
- changing the LEN of a monitored DN to an unused LEN for 500/2500 sets only using the CLN (change LEN) command
- swapping a monitored DN with other existing DNs using the SWAP (exchange of DNs for up to 32 LENs) command
- adding a monitored DN to a MADN (SCA) group of a different DN using the ADO command. Also, if a member is removed from an existing monitored MADN SCA group and assigned to a different DN, the ex-member cannot be monitored by the BLF.
- Option BLF remains on the monitoring set but the monitored DN datafill in Table KSETFEAT is shown as N, indicating that no specific DN is assigned with option BLF. Another monitored DN can be assigned using the CHF (change feature information for preexisting feature) command.

Table KSETFEAT

Table KSETFEAT (Business Set and Data Unit Feature) lists the line features that are assigned to the MBSs listed in Table KSETLINE. One entry is required for each feature that is assigned to an MBS line.

This table is datafilled when option BLF is assigned to a feature key in SERVORD. Subfield BLFDN specifies the BLF DN to be monitored. A monitored DN must be ten digits in length and is entered at the time Direct Station Selection/Busy Lamp Field for MBS is assigned.

SERVORD limitations and restrictions

Direct Station Selection/Busy Lamp Field for MBS has no SERVORD limitations and restrictions.

Direct Station Selection/Busy Lamp Field for MBS (continued)

SERVORD prompts

The following table shows the SERVORD prompts used to assign Direct Station Selection/Busy Lamp Field for MBS to an MBS.

SERVORD prompts for Direct Station Selection/Busy Lamp Field for MBS

Prompt	Valid input	Explanation
OPTKEY	1 to 69	Specifies the key on an MBS to which the option is to be assigned. Enter a value from 1 to 69.
OPTION	BLF	Specifies the option to be assigned to a line. Enter BLF.
BLFDN	10-digit DN	Specifies the BLF-monitored DN. Enter a 10-digit DN.
Note: Table KSETFEAT is automatically datafilled when Direct Station Selection/Busy Lamp Field for MBS is assigned using SERVORD.		

SERVORD example for adding Direct Station Selection/Busy Lamp Field for MBS

The following SERVORD example shows how Direct Station Selection/Busy Lamp Field for MBS is added to an existing line using the ADO command.

SERVORD example for Direct Station Selection/Busy Lamp Field for MBS in prompt mode

```
>
SO:
> ADO
SONUMBER:     NOW  92  3  26 AM
>
DN_OR_LEN:
>6213000
OPTKEY:
> 5
OPTION:
>BLF
BLFDN:
> 6136211011
OPTKEY:
> $
```

Direct Station Selection/Busy Lamp Field for MBS (end)

SERVORD example for Direct Station Selection/Busy Lamp Field for MBS in no-prompt mode

```
> ADO $ 6213000 5 BLF 6136211011  $
```

E911 Single Button Transfer Operation

Ordering codes

Functional group ordering code: MDC00013

Functionality ordering code: not applicable

Release applicability

BCS31 and up

Prerequisites

To operate, E911 Single Button Transfer Operation has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC MBS Minimum, MDC00007

Description

E911 Single Button Transfer Operation allows a Meridian Business Set (MBS) user to transfer calls rapidly by using a QUICK CONFERENCE key. Pressing the key automatically generates the flash and sends a speed calling code or DN. The QUICK CONFERENCE key reduces the number of steps that are otherwise needed to complete the conference from an MBS.

Note: This feature can be used in both the MDC and E911 environments. This description applies to MDC.

Operation

With E911 Single Button Transfer Operation a QUICK CONFERENCE key can be assigned to an MBS. The conferencing DN can be assigned through SERVORD, or it can be specified by the end user.

For each MBS, up to 12 QUICK CONFERENCE keys can be assigned and programmed with unique DNs.

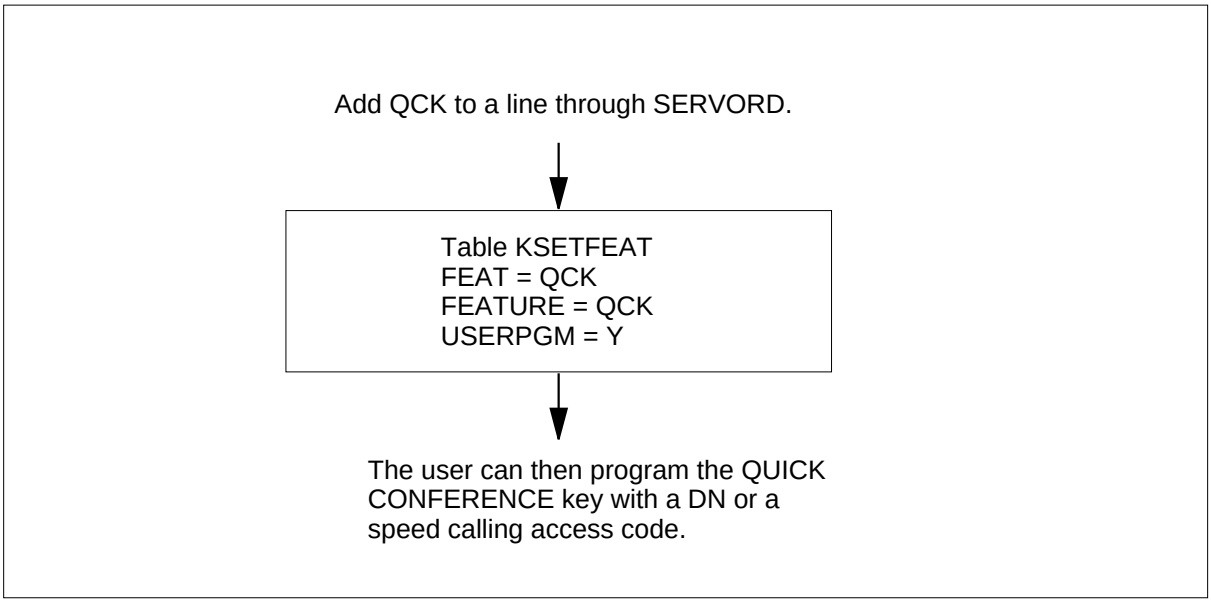
Translations table flow

The E911 Single Button Transfer Operation translations table is Table KSETFEAT. Table KSETFEAT lists the line features that are assigned to MBSs. Option QCK is added to the option list for an MBS when it is assigned to a line through SERVORD.

E911 Single Button Transfer Operation (continued)

The E911 Single Button Transfer Operation translations process is shown in the flowchart that follows. The flowchart and data show the translations process when assigning option QCK to an MBS.

Translations data flow for activating E911 Single Button Transfer Operation



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

Datafill example for E911 Single Button Transfer Operation

Datafill table	Example data
KSETFEAT	01 2 3 2 8 QCK QCK Y

Limitations and restrictions

Call transfer (CXR) must be present on the line or as a customer group option in order for a transfer to take place.

Interactions

E911 Single Button Transfer Operation has no functionality interactions.

Activation/deactivation by the end user

This section describes how the end user programs a QUICK CONFERENCE key, verifies that the key is correctly programmed, and transfers a call using the key.

E911 Single Button Transfer Operation (continued)

Programming the QUICK CONFERENCE key

The following procedure shows the steps for a telephone subscriber to assign a DN or speed calling code to a QUICK CONFERENCE key. This procedure requires permission, assigned when option QCK is added to the line through SERVORD. See “Service orders" in this feature description for details on assigning permission.

Programming the QUICK CONFERENCE key by the end user

At your telephone

1 While there is no active call and the handset is on-hook, press the QUICK CONFERENCE key.

Response:

The QUICK CONFERENCE key lamp begins flashing. If the MBS is equipped with a display, the DN or speed calling code currently stored for dialing is displayed.

> ***Note:*** To interrupt programming of the QUICK CONFERENCE key at any time, press the release key. The original value will be restored. Incoming calls cause the DN key to flash while programming is in progress. The end user has the option to answer the call, which cancels programming, or to continue.

2 Enter a valid DN or speed-calling code. A DN can be up to 15 digits. A speed calling code has one or two digits, and is entered with a leading asterisk and the digit 1: *1X or *1XX, where X is a digit from 0 through 9.

Response:

The entered value appears on the MBS display.

3 Press the QUICK CONFERENCE key.

Response:

The QUICK CONFERENCE key lamp stops flashing.

The DN or speed calling code is stored.

The MBS display clears.

Verifying QUICK CONFERENCE key programming

The following procedure explains how to verify the number currently assigned to the QUICK CONFERENCE key by using the INSPECT key. This procedure requires an MBS with a display and an INSPECT key.

E911 Single Button Transfer Operation (continued)

Verifying the QUICK CONFERENCE key programming by the end user

At your telephone

1 While there is no active call and the handset is on-hook, press the INSPECT key.

Response:

The following message appears:

```
INSPECT MODEPRESS A KEY
```

2 Press the QUICK CONFERENCE key.

Response:

a The first line of the display identifies the QUICK CONFERENCE key as the one being verified. It also shows whether the key is programmable by the subscriber or by service orders.

b The second line displays the number or indicates the key has not been programmed.

Transferring a call using the MBS QUICK CONFERENCE key

The following procedure describes the steps to perform a call transfer using the QUICK CONFERENCE key once a two-party call is in progress. Error treatments will occur while the transfer is being set up under the following conditions:

- The QUICK CONFERENCE key has been programmed with a speed calling code but speed calling options have not been assigned to the MBS line.
- The programmed number cannot be translated.
- No three-port conference circuit is available.
- The MBS handset has been taken off-hook and dial tone received before the QUICK CONFERENCE key has been pressed.

E911 Single Button Transfer Operation (continued)

Transferring a call using the QUICK CONFERENCE key

At your telephone

1 With a two-party emergency call active, press the QUICK CONFERENCE key.

Response:

a The QUICK CONFERENCE key lamp lights.

b The DN or speed calling code/DN of the party being added is shown. If DN programming is incorrect, the end user hears an appropriate recorded announcement.

c The DN key lamp flashes to indicate the calling party is on hold.

Note: With 3WCPUB assigned to the primary DN key, the calling party automatically is bridged 1 s after the transfer is initiated, whether or not the add-on answers. In this case, the DN is displayed for 1 s before the word CONFERENCE replaces it.

2 To complete the transfer, hang up the MBS receiver

Response:

If the MBS has a display, the DN of the calling party reappears.

or

3 To disconnect the add-on party, press the QUICK CONFERENCE key which invoked the transfer.

Response:

None

Note: The CXR or 3WC option can be assigned to an available key by the operating company. This key enables the end user to disconnect the add-on party without having to remember which QUICK CONFERENCE key was originally used to initiate the transfer.

Billing

E911 Single Button Transfer Operation does not affect billing.

Station Message Detail Recording

E911 Single Button Transfer Operation does not affect Station Message Detail Recording.

Datafilling office parameters

E911 Single Button Transfer Operation does not affect office parameters.

Datafill sequence

The following table lists the table that requires datafill to implement E911 Single Button Transfer Operation. Table KSETFEAT is datafilled through

E911 Single Button Transfer Operation (continued)

SERVORD; therefore, no datafill procedure or example is provided. Refer to “SERVORD" for an example of using SERVORD to datafill this table.

Datafill tables required for E911 Single Button Transfer Operation

Table	Purpose of table
KSETFEAT	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.

Translation verification tools

E911 Single Button Transfer Operation does not use translation verification tools.

SERVORD

SERVORD is used to datafill table KSETFEAT. Table KSETFEAT 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.

SERVORD limitations and restrictions

E911 Single Button Transfer Operation has no SERVORD limitations and restrictions.

SERVORD prompts

The following table shows the SERVORD prompts used to assign E911 Single Button Transfer Operation to an MBS.

SERVORD prompts for E911 Single Button Transfer Operation (Sheet 1 of 2)

Prompt	Valid input	Explanation
OPTION	QCK	Specifies the option to be added to or deleted from the line. Enter QCK.
Note: Table KSETFEAT is automatically datafilled when the E911 Single Button Transfer Operation feature is assigned using SERVORD.		

E911 Single Button Transfer Operation (continued)

SERVORD prompts for E911 Single Button Transfer Operation (Sheet 2 of 2)

Prompt	Valid input	Explanation
USERPGM	Y,N	Indicates whether the QUICK CONFERENCE key can be programmed by the end user. Enter Y or N.
QCKDN	0-9, B or $	Specifies the code used to establish a calling link to the add-on party. Speed calling codes are in the form Bxy, where x and y are the speed calling digits. DNs are entered as digit strings. B corresponds to * on the subscriber's keypad. $ indicates the subscriber has the programming option and will enter this value. USERPGM must be set to Y for the $ input to be valid.
Note: Table KSETFEAT is automatically datafilled when the E911 Single Button Transfer Operation feature is assigned using SERVORD.		

SERVORD example for implementing E911 Single Button Transfer Operation

The following SERVORD example shows how E911 Single Button Transfer Operation is added to a line using the ADO command. QCK provides single button call transfer capability. An end user can select a three-port conference circuit and call the add-on party in a single step by pressing the MBS key assigned the QCK option.

E911 Single Button Transfer Operation (end)

SERVORD example for E911 Single Button Transfer Operation in prompt mode

```
>
SO:
> ADO
SONUMBER:  NOW 89 11 23 AM
>
DN_OR_LEN:
> 0  0  16  4
OPTKEY:
> 8
OPTION:
> QCK
USERPGM:
> Y
QCKDN: The MBS key must be programmed by the end user before it can be used.
> $
OPKEY:
>$
```

SERVORD example for E911 Single Button Transfer Operation in no-prompt mode

```
>ADO $ 0 0 16 4 8 QCK Y $ $
```

Fast Transfer for Meridian Business Set

Ordering codes

Functional group ordering code: MDC00013

Functionality ordering code: not applicable

Release applicability

BCS32 and up

Prerequisites

To operate, Fast Transfer for Meridian Business Set has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC MBS Minimum, MDC00007

Description

Fast Transfer for Meridian Business Set provides call transfer (CXR) with transfer on release, an enhancement to CXR that enables the Meridian business set (MBS) end user to transfer calls from the consultation state in a simple, direct method.

In addition, Fast Transfer for Meridian Business Set also supports Access Feature Grouping (AFG).

Operation

The CXR with transfer on release capability enables the MBS end user to transfer calls in a simple, direct method. Using CXR, the MBS end user can transfer the call directly (blind transfer) or can announce the call to the called party before completing the transfer. The end user can also switch between the two parties (flip-flop) by alternately pressing the active DN and CXR keys. The CXR with transfer on release capability also provides the MBS end user with the option of establishing a conference call from the second leg of a three-way call.

The CXR with transfer on release capability is assigned with option CXR through the Service Order System (SERVORD). If call transfer recall is enabled, the transferring party is recalled when no one answers the transferred call.

In addition, Fast Transfer for Meridian Business Set enables the MBS end user to transfer a call without having to conference all the parties beforehand. If

Fast Transfer for Meridian Business Set (continued)

Direct Station Selection/Busy Lamp Field for MBS is datafilled, the MBS end user can check the state of the busy lamp field (BLF) lamp for the directory number (DN) to which the call is to be transferred. If the BLF lamp is not lit, the end user can press the CXR key to transfer the call, with or without announcing the call to the called party. If the called party does not answer the call, a CXR recall can occur after the recall timer expires. Refer to “Direct Station Selection/Busy Lamp Field for MBS" for details.

Station Camp On for Meridian Business Set can also be used with fast transfer. For example, if an end user notices that the called party is busy on a call (that is, the BLF lamp is lit), the end user can still transfer by activating camp-on. The camped-on caller receives ringing, silence, music or an announcement until the call is answered. If the called party does not answer in the specified length of time, the call is returned to the end user's MBS. If Station Camp On for Meridian Business Set has not been assigned and the called party is busy, the call can be transferred to the called party with the CXR key. The caller receives busy treatment. Refer to “Station Camp On for Meridian Business Set" for details.

If an MBS is associated with a feature group, option CXR can be assigned to the set if option CXR is one of the feature options of the feature group.

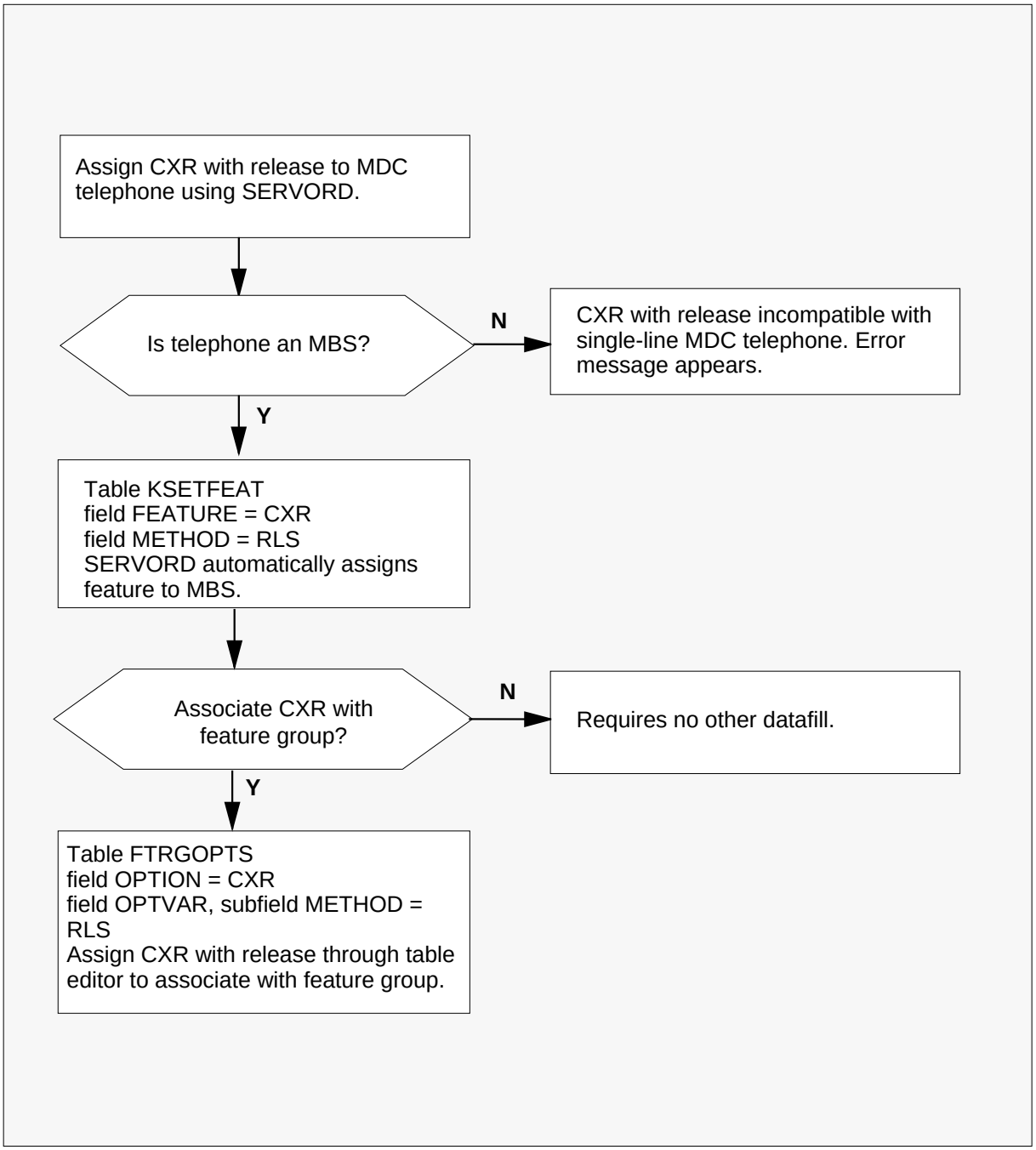
Translations table flow

The Fast Transfer for Meridian Business Set uses translation table FTRGOPTS. Table FTRGOPTS (Feature Group Options) assigns line options to feature groups and specifies characteristics of individual feature group options. The table must be datafilled for MBSs associated with a feature group.

The Fast Transfer for Meridian Business Set translation process is shown in the flowchart that follows.

Fast Transfer for Meridian Business Set (continued)

Table flow for Fast Transfer for Meridian Business Set



Fast Transfer for Meridian Business Set (continued)

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

Datafill example for Fast Transfer for Meridian Business Set

Datafill table	Example data
KSETFEAT	HOST 0 0 16 4 5 FXR FXR Y 45 $
FTRGOPTS	MDCGRP1 CXR CXR CTALL Y 30 RLS $DAVIS05 FXR FXR Y 5 0

Limitations and restrictions

The following limitations and restrictions apply to Fast Transfer for Meridian Business Set:

- Fast Call Transfer (FXR) does not work if the calling party or E911 agent made the 911 call over a line or trunk. The call receives reorder treatment.
- FXR does not work if the calling party transfers to an E911 agent and the 911 call was made over a line or trunk. The call receives reorder treatment.
- The CXR with transfer on release capability is restricted to MBSs. Since 500/2500 sets already have this capability (feature AD0990, Blind Transfer Recall Identification), CXR with transfer on release cannot be assigned to a 500/2500 line.
- The only way to release the second leg of a three-way call where CXR transfer on release is active is by first conferencing the third party, then flashing off (that is, pressing the CXR key again) the third party.
- All feature restrictions and limitations that apply to 3WC/CXR also apply to Fast Transfer for Meridian Business Set.
- All feature restrictions and limitations that apply to the Direct Station Selection/Busy Lamp Field (DSS/BLF) for MBS, Station Camp On for Meridian Business Set, and recall features also apply when they are used to transfer a call with CXR transfer on release.

Interactions

The following paragraphs describe the interactions between Fast Transfer for Meridian Business Set and other functionalities.

Access Feature Grouping

If an MBS is associated with Access Feature Grouping, CXR and the transfer on release capability can only be assigned to the set through the feature group.

Call Transfer Recall

When Call Transfer Recall is datafilled with CXR with transfer on release, the transferring party is called back if no one answers the transferred call after the specified length of time.

Direct Station Selection/Busy Lamp Field for MBS

An end user with Direct Station Selection/Busy Lamp Field for MBS can check the state of the called party before activating CXR with transfer on release to transfer the call.

Station Camp On for Meridian Business Set

Station Camp On for Meridian Business Set can be used to transfer a call to a busy line using CXR.

Activation/deactivation by the end user

This section describes how to activate, flip-flop, and cancel the CXR with transfer on release capability of Fast Transfer for Meridian Business Set.

An MBS end user can transfer a call in two steps, as follows:

- The end user presses the CXR key to set up the second leg of a three-way call.
- The end user then completes the transfer by pressing the RLS key or going on-hook. (Alternatively, the end user can set up a conference call by pressing the CXR key again.)

Activating CXR with transfer on release

When an MBS end user's set receives a call, the DN lamp flashes and the caller's DN is displayed, depending on the type of set and whether the MBS has calling number display capabilities. Upon answering, the end user can transfer the call to another station.

Activating CXR with transfer on release by the end user

At your telephone:

1. The end user presses the flashing DN key or goes off-hook to answer a call.

   Response:

   The DN's LCD turns on. The end user is involved in a two-party call.

2. The end user verifies that the caller wants to be transferred and presses the CXR key.

   Response:

Fast Transfer for Meridian Business Set (continued)

The lamp associated with the CXR key turns solidly lit, and the DN key flashes, indicating that the call is placed on hold.

3. The end user presses the BLF key or dials the digits of the party to which the call is to be transferred.

   Response:

   The monitored DN, or digits dialed, is displayed on the end user's set.

4. The end user waits for the called party to answer. He or she announces the call to the called party and then transfers the call by pressing the RLS key or going off-hook.

   Response:

   The CXR lamp and the DN lamp associated with the incoming call are extinguished. If the MBS is equipped with a display, it is updated to reflect that the call has been disconnected.

Flip-flopping CXR with transfer on release

The following procedure shows how to flip-flop between originating and terminating parties using the CXR transfer on release capability of Fast Transfer for Meridian Business Set.

Flip-flopping with CXR with transfer on release by the end user

At your telephone:

1. The end user presses the flashing DN key or goes off-hook to answer a call.

   Response:

   None

2. The end user verifies if the caller wants to be transferred and presses the CXR key.

   Response:

   The lamp associated with the CXR key turns solidly lit, and the DN key flashes, indicating that the call is placed on hold.

3. The end user presses the BLF key or dials the digits of the party to which the call is to be transferred.

   Response:

   The monitored DN, or digits dialed, are displayed on the end user's set.

4. If the called party does not want the call transferred or the end user wants to confer with the caller again, the end user presses the flashing DN associated with the caller.

Response:

The end user is reconnected with the caller.

5. Or the end user presses the flashing CXR key.

   Response:

   The end user is reconnected with the called party, without losing the caller.

Canceling CXR with transfer on release

If the caller does not want to be transferred, the following procedure shows how to cancel the CXR with transfer on release capability of Fast Transfer for Meridian Business Set.

Cancellation of CXR with transfer on release by the end user

At your telephone:

1. The end user presses the flashing DN key or goes off-hook to answer a call.

   Response:

   The DN's LCD turns on. The end user is involved in a two-party call.

2. The end user verifies if the caller wants to be transferred. If the caller does not want to be transferred, the end user presses the RLS key.

   Response:

   The two-party call is released.

3. Or if the caller wants to be transferred, the end user presses the CXR key.

   Response:

   The second leg of the call is set up and the caller is placed on hold. The CXR lamp turns solidly lit and the DN lamp associated with the incoming call flashes.

4. If the CXR key was mistakenly pressed, the end user first presses the RLS key and then the flashing DN key.

   Response:

   CXR is canceled and the end user is reconnected with the caller.

5. The end user then presses the BLF key or dials the digits of the called party.

   Response:

Fast Transfer for Meridian Business Set (continued)

The second leg of the call is set up.

6. The end user must conference in all parties and then press the CXR key.

   Response:

   The second leg of the call is released and the end user returns to a two-party call.

   Note: If the end user pressed the RLS key at this point, the second leg of the call is incorrectly transferred.

Billing

Billing with CXR

A station is billed for the legs it originated with CXR with transfer on release. Once the call is transferred, the transferring station is billed as if it originated the transferred call.

Station Message Detail Recording

Fast Transfer for Meridian Business Set does not affect Station Message Detail Recording.

Datafilling office parameters

Fast Transfer for Meridian Business Set does not affect office parameters.

Datafill sequence with option CXR

The following table lists the tables that require datafill to implement Fast Transfer for Meridian Business Set with option CXR. The tables are listed in the order in which they are datafilled.

Datafill tables required for Fast Transfer for Meridian Business Set with option CXR

Table	Purpose of table
FTRGOPTS	Feature Group Options Table
IBNFEAT (Note)	IBN Line Feature Table. This table lists line features that are assigned to the IBN lines listed in table IBNLINES.
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) listed in table KSETLINE, and also the Meridian digital telephone sets and DUs listed in table IVDINV.
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.	

Datafilling table FTRGOPTS

The following table shows the datafill specific to Fast Transfer for Meridian Business Set for tableFTRGOPTS . Only those fields that apply directly to Fast

Fast Transfer for Meridian Business Set (continued)

Transfer for Meridian Business Set are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table FTRGOPTS (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
FTRGRP		alphanumeric	Feature Group Name. This field specifies the name of the feature group to which the option is to be assigned. Enter the 1- to 16-character alphanumeric feature group name.
OPTION		CXR	Option. This field specifies the option. Enter CXR.
OPTVAR		see subfields	Option Variable Area. This field consists of subfields CXFERVAR, CXFERRCL, and METHOD.
	CXFERTYP	CTOUT, CTINC, CTINTRA, CTALL, NCT, ATTRCLF, or CUSTOM	Call Transfer Type. This subfield specifies the CXR type for the line. Enter CTOUT for CXR outgoing calls. Enter CTINC for CXR incoming calls. Enter CTINTRA for CXR intragroup. Enter CTALL for CXR all. Enter NCT if the call is to be routed to the attendant if the first leg of the call is intergroup and the controller is the terminator of the call. Enter ATTRCLF if the call is always routed to the attendant. Enter CUSTOM if specifying a CXR type other than these listed. If CXFERTYP is set to CUSTOM, datafill subfields ORGINTER, ORGINTRA, TRMINTER, and TRMINTRA require datafill.
	ORGINTER	AC, INTER, INTRA, TRATER, or NOCXFER	Originating Intergroup. This subfield specifies the CXR type for originating intergroup calls. Enter AC for attendant. Enter INTER for intergroup. Enter INTRA for intragroup. Enter TRATER for intragroup or intergroup. Enter NOCXFER if CXR is not allowed.
	ORGINTRA	AC, INTER, INTRA, TRATER, or NOCXFER	Originating Intragroup. This subfield specifies the CXR type for originating intragroup calls. Enter AC for attendant. Enter INTER for intergroup. Enter INTRA for intragroup. Enter TRATER for intragroup or intergroup. Enter NOCXFER if CXR is not allowed.

Fast Transfer for Meridian Business Set (continued)

Datafilling table FTRGOPTS (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	TRMINTER	AC, INTER, INTRA, TRATER, or NOCXFER	Terminating Intergroup. This subfield specifies the CXR type for terminating intergroup calls. Enter AC for attendant. Enter INTER for intergroup. Enter INTRA for intragroup. Enter TRATER for intragroup or intergroup. Enter NOCXFER if the CXR is not allowed.
	TRMINTRA	AC, INTER, INTRA, TRATER, or NOCXFER	Terminating Intragroup. This subfield specifies the CXR type for terminating intragroup calls. Enter AC for attendant. Enter INTER for intergroup. Enter INTRA for intragroup. Enter TRATER for intragroup or intergroup. Enter NOCXFER if the CXR is not allowed.
	CXFERRCL	see subfields	Call Transfer Recall Variable Area. This field consists of subfields CXRRCL and RCLTIM.
	CXRRCL	Y or N	Call Transfer Recall. This subfield specifies the call transfer recall. Enter Y if CXR recall is allowed. Enter N if CXR recall is not allowed.
	RCLTIM	12 to 120	Recall Timer. This field specifies the number of seconds for the recall timer. Enter a value from 12 to 120.
	METHOD	STD, RLS, or DIAL	Method. This field specifies the method of transfer. Enter STD to select the existing CXR option. Enter RLS to select transfer on release. Enter DIAL to select a method of transfer similar to the existing CXR option except that the end user does not have to go on-hook to activate it.

Datafill example for table FTRGOPTS

The following example shows sample datafill for the CXR with transfer on release capability in Table FTRGOPTS.

Fast Transfer for Meridian Business Set (continued)

MAP display example for table FTRGOPTS

```
FTRGOPT OPTION  OPTION          OPTVAR
----------------------------------------------------
MDCGRP1  CXR      CXR         CTALL  Y  45  STD $
```

Translation verification tools

Fast Transfer for Meridian Business Set does not use translation verification tools.

SERVORD

Field METHOD has been added to the existing CXR option to define the method of transfer for a line. This field is visible when the line is initially set up using the NEW command. It can also be seen when CXR is added to, changed, and deleted from an existing line using the ADO (add option), CHF (change feature information for preexisting feature), DEO (delete option), and OUT (remove service) SERVORD commands.

Table KSETFEAT

Table KSETFEAT (Business Set and Data Unit Feature) lists the line features that are assigned to the MBSs listed in Table KSETLINE. One entry is required for each feature that is assigned to an MBS line. This table is datafilled when features are assigned to the line in SERVORD.

SERVORD limitations and restrictions

Fast Transfer for Meridian Business Set has no SERVORD limitations and restrictions.

Fast Transfer for Meridian Business Set (continued)

SERVORD prompts

The following table shows the SERVORD prompts used to assign Fast Transfer for Meridian Business Set (CXR with transfer on release) to a line.

SERVORD prompts for Fast Transfer for Meridian Business Set (Sheet 1 of 2)

Prompt	Valid input	Explanation
OPTKEY	1 to 69	Specifies the key on an MBS to which the option is to be assigned. Enter a value from 1 to 69.
OPTION	CXR	Specifies the option to be assigned to a line. Enter CXR.
CXFERTYP	CTOUT, CTINC, CTINTRA, CTALL, NCT, ATTRCLF CUSTOM	This field specifies the CXR type. Enter CTOUT for CXR outgoing calls. Enter CTINC for CXR incoming calls. Enter CTINTRA for CXR intragroup. Enter CTALL for CXR all. Enter NCT if the call is to be routed to the attendant if the first leg of the call is intergroup and the controller is the terminator of the call. Enter ATTRCLF if the call is always routed to the attendant. Enter CUSTOM if specifying a CXR type other than these listed.
ORGINTER	AC, INTER, INTRA, TRATER, NOCXFER	Specifies the CXR type for originating intergroup calls. Enter AC for attendant. Enter INTER for intergroup. Enter INTRA for intragroup. Enter TRATER for intragroup or intergroup. Enter NOCXFER if the CXR is not allowed.
ORGINTRA	AC, INTER, INTRA, TRATER, NOCXFER	Specifies the CXR type for originating intragroup calls. Enter AC for attendant. Enter INTER for intergroup. Enter INTRA for intragroup. Enter TRATER for intragroup or intergroup. Enter NOCXFER if the CXR is not allowed.
TRMINTER	AC, INTER, INTRA, TRATER, NOCXFER	Specifies the CXR type for terminating intergroup calls. Enter AC for attendant. Enter INTER for intergroup. Enter INTRA for intragroup. Enter TRATER for intragroup or intergroup. Enter NOCXFER if the CXR is not allowed.

Fast Transfer for Meridian Business Set (continued)

SERVORD prompts for Fast Transfer for Meridian Business Set (Sheet 2 of 2)

Prompt	Valid input	Explanation
TRMINTRA	AC, INTER, INTRA, TRATER, NOCXFER	Specifies the CXR type for terminating intragroup calls. Enter AC for attendant. Enter INTER for intergroup. Enter INTRA for intragroup. Enter TRATER for intragroup or intergroup. Enter NOCXFER if the CXR is not allowed. ***Note:*** ORGINTER, ORGINTRA, TRMINTER, and TRMINTRA only display if CXFERTYPE is set to CUSTOM.
CXRRCL	Y, N	This field specifies the call transfer recall. Enter Y if CXR recall is allowed. Enter N if CXR recall is not allowed.
RCLTIM	12 to 120	This field specifies the number of seconds for the recall timer. Enter a value from 12 to 120.
METHOD	STD, RLS, DIAL	This field specifies the method of transfer. Enter STD to select the existing CXR option. Enter RLS to select transfer on release. Enter DIAL to select the existing CXR option except that the end user does not have to go on-hook to activate.

Note: Tables KSETFEAT and IBNFEAT are automatically datafilled when Fast Transfer for Meridian Business Set (CXR with transfer on release) is assigned using SERVORD.

SERVORD example for adding Fast Transfer for Meridian Business Set

The following SERVORD example shows how Fast Transfer for Meridian Business Set is added to a line using the ADO command.

Fast Transfer for Meridian Business Set (end)

SERVORD example for Fast Transfer for Meridian Business Set in prompt mode

```
>ADO
SONUMBER:     NOW  92  5 12 PM
> CR
DN_OR_LEN:
>0 0 8 15
OPTKEY:
>2
OPTION:
>FXR
FXRRCL:
>Y
TIMER:
>12
OPTKEY:
>$
```

SERVORD example for Fast Transfer for Meridian Business Set in no-prompt mode

```
>ADO $ 0 0 8 15  6 CXR CTALL Y 45 RLS $
```

Interactive Display Menu on MBS Sets

Ordering codes

Functional group ordering code: MDC00013

Functionality ordering code: not applicable

Release applicability

BCS30 and up

Prerequisites

To operate, Interactive Display Menu on MBS Sets has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC MBS Minimum, MDC00007

Description

Interactive Display Menu on MBS Sets is an enhancement to Power Features (PF) for Meridian business sets (MBS) equipped with a 2-line by 24-character (or greater) display. Power Features provides the end user with the ability to add or remove features and to review data on any set in a customer group. The PF enhancements consist of the following:

- option PFCNTL, which enables operating companies to restrict end user access to PF. Option PFCNTL also packages PF features so that an end user can decide which features are available on any business set or group of business sets. Instead of defining data for each phone, several phones can share common data.
- improved PF end user capabilities, including the following:
  - — single feature attribute list
  - — increased number of list elements
  - — improved display response when exiting PF
  - — extended dial-by-feature-name set

The Interactive Display Menu on MBS Sets feature enhances feature AJ0445, MBS Power Feature - Name Programming. (Refer to “MBS Power Feature - Name Programming" for details on name programming.) In addition, this feature description includes background information on the command interpreter (CI) command terminal management environment (TME) from feature AJ0443, Interactive Display Service Order.

Operation

The following paragraphs describe operation for Interactive Display Menu on MBS Sets.

Background

The TME provides end users with the ability to access applications by interacting with the display and keypad on MBS display sets. These applications add functions for setting operation and control of available services. Power Features is one of these applications. The TME provides the end user interface to PF and other applications.

The end user can access the TME from any of the following states:

- while the set is idle
- while receiving ringback
- while on hold

The end user cannot access the TME from any of the following states:

- while dialing
- while involved in a three-way call
- while activating the Ring Again (RAG) feature

Power Features attributes

Power Features guides the end user through a selection of PF attributes. After completing each attribute, the end user can select another PF attribute or exit the PF session. Call processing is only interrupted when the end user answers or originates a call.

Interactive Display Menu on MBS Sets includes the following PF attributes:

- name programming
- password security
- language selection
- feature key definition

Interactive Display Menu on MBS Sets (continued)

Name programming

Name programming provides the PF end user with the following capabilities:

- changing names associated with sets. Depending on the end user's classification, he or she can change the names associated with other sets in his or her customer group.
- automatically detecting multiple names on a public or private directory number (DN) and renaming one of the duplicates
- changing multiple appearance directory number (MADN) names

Password security

Password security enables the end user to change the password associated with option PF.

Language selection

Language selection enables the end user to select either French or English as the PF menu display language.

Feature key definition

Feature key definition enables the end user to program PF features into MBS feature keys. An end user can add or delete the following PF features:

- Call Covering
- Call Park
- Directed Call Park
- Executive Message Waiting
- Inspect
- Leave Message
- Make Set Busy
- Query Time and Date
- Ring Again
- Three-Way Calling

The end user first selects a PF feature and then adds it to or deletes it from a feature key. Selecting a PF feature turns on the associated key lamp and adding or deleting the feature turns the lamp off. The end user can then continue adding and deleting PF features, or can exit PF.

Interactive Display Menu on MBS Sets (continued)

Improved PF end user capabilities

Interactive Display Menu on MBS Sets enhances PF capabilities by enabling the end user to

- create a single feature attribute list in which all PF features or PF attributes are listed under one menu, which is displayed when PF is activated. The end user can still change PF using the dial-by-feature-name capability. The menu lists these PF features and attributes:
  - Call Covering
  - Call Park
  - change language
  - choose language
  - Directed Call Park
  - Executive Message Waiting
  - Inspect
  - Leave Message
  - Make Set Busy
  - name programming
  - Query Time and Date
  - Ring Again
  - Three-Way Calling
- set PF menus to display in French or English
- increase the number of list elements available in a list. Interactive Display Menu on MBS Sets allows PF menus to include numerous items in a list. (Without this feature, there can only be nine PF items in a list.)
- display more comprehensive prompts when exiting PF.
- access the dial-by-feature-name capability to program PF features more quickly

Power Features partitioning

Power Features partitioning restricts the capabilities provided to an end user by option PF. Option PFCNTL is added to the feature group data to restrict both PF attributes (such as name programming and password updating) and the options available through the feature key definition attribute. Option PFCNTL is accessible by assigning it to feature groups. The assignment of option PFCNTL is entered in Table FTRGOPTS (Feature Group Options). (Refer to

Interactive Display Menu on MBS Sets (continued)

“Access Feature Grouping" for more information on assigning feature group options.)

The following PF attributes are available to the end user:

- name programming
- password security
- language selection
- feature key definition

The end user has access to the specific PF attributes that are associated with a particular line's feature group. All the PF attributes are accessible by default if option PFCNTL is not associated with a feature group, or if a line is not assigned to a feature group.

The following figures show examples of PF partitioning in feature groups. The first figure shows a PF feature group with the name programming and password security attributes enabled. All other PF attributes are disabled.

Feature group partitioning with name programming and password security enabled

```
CPU
SC
PF
PFCNTL name pswd
CPK
MSB
```

The following figure shows a feature group with all PF attributes enabled; however, not all PF features are accessible. The end user does not have access to the Inspect and Leave Message features. Although the Call Forward Busy (CFB) and Call Pickup (CPU) features are in the feature group, they are not accessible to PF end users because they are not supported.

Interactive Display Menu on MBS Sets (continued)

Feature group partitioning with all PF attributes enabled

```
CPU
CFB
PF
PFCNTL name pswd lang keydef
CPK
MSB
RAG
DCPK
CCV
CONF3
QTD
```

Packaging control

Packaging control is another feature group capability. If a feature is supported by PF but it is not in the feature group, it is not accessible to the end user. If no feature group is assigned to the line, all features are accessible to the end user.

When packaging control is applied to PF, the following situations can occur:

- No match is found if an end user attempts to access a PF feature by dialing the feature access code and the feature is not in the particular line's feature group.
- An end user cannot access a PF feature that is not displayed in the PF menu list.

To control the lines that have access to features, the end user should perform either of the following:

- Enter a suboption into a line's feature group to enable a corresponding PF attribute. By limiting PFCNTL options, the end user restricts a line's access to features.
- Remove a feature from a feature group.

Power Features defaults

The addition of feature group control over PF associates default values for PF. The default values are

- language
- password
- user class

Interactive Display Menu on MBS Sets (continued)

The default values are associated with a line or a feature group. The values are customized on a feature group basis when option PF is added to the feature group. If a particular line has its own PF-specific data, the base PF template associated with the feature group can be updated. For example, to define a password, the end user accesses the feature group's default values and changes the password value. Feature group default values are significant if the line does not have associated PF data.

Translations table flow

The Interactive Display Menu on MBS Sets translations tables are described in the following list. The flowchart and data show the datafill tables required before and after PF is assigned through SERVORD.

- Table FTRGDEFS (Feature Group Definitions) specifies group characteristics for each feature group and enables the end user to package residential and business line features into logical groupings that can be assigned to individual lines through a single SERVORD prompt.

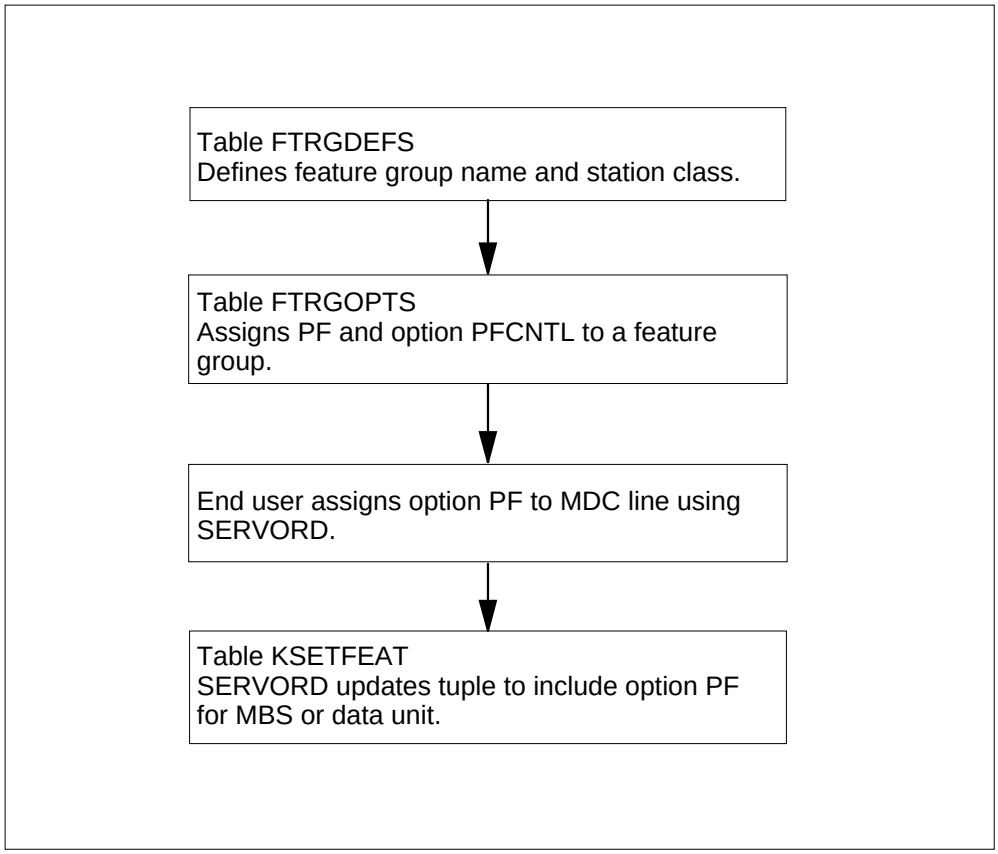
  Note: Interactive Display Menu on MBS Sets requires that Table FTRGDEFS be datafilled first to define a feature group name and station class.

- Table FTRGOPTS (Feature Group Options) assigns line options to all feature groups defined in an office.
- Table KSETFEAT (Business Set and Data Unit Feature) lists the line features that are assigned to the business sets and data units listed in Table KSETLINE (Business Set and Data Unit Line Assignment).

The Interactive Display Menu on MBS Sets translation process is shown in the flowchart that follows.

Interactive Display Menu on MBS Sets (continued)

Table flow for Interactive Display Menu on MBS Sets



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

Datafill example for Interactive Display Menu on MBS Sets

Datafill table	Example data
FTRGDEFS	RESPKG012 RES 0 $
	BNR14MBS MBS PRIV BNRMER 0 CDC $
FTRGOPTS	BNR14MBS PF PF LANG FRENCH
	BNR16MBS PFCNTL PFCNTL (PSWD) $
KSETFEAT	00 1 02 03 8 PF PF PWSD 123 $

Interactive Display Menu on MBS Sets (continued)

Limitations and restrictions

The following limitations and restrictions apply to Interactive Display Menu on MBS Sets:

- Interactive Display Menu on MBS Sets can only be accessed on MBSs with a 2-line by 24-character (or greater) display.
- Only the following peripheral types support PF:
  - — remote cluster controller (RCC)
  - — line trunk controller (LTC)
  - — line group controller (LGC)
- If an end user is involved in a call with another party and PF is activated, Malicious Call Hold (MCH) or Executive Busy Override (EBO) cannot be activated.
- No match is found if an end user attempts to access a PF feature or attribute by dialing the access code and the feature or attribute is not listed in the particular line's feature group.
- PF can be assigned directly to an MBS end user by assigning a feature group that contains PF.
- An end user cannot access a PF feature or attribute that is not displayed in the PF menu list.

Interactions

The following paragraphs describe the interactions between Interactive Display Menu on MBS Sets and other functionalities.

Call Waiting

If an MBS has Call Waiting (CWT) and the TME activated and a call comes in while the caller is off-hook on another call, the CWT lamp is lit. The caller must first deactivate the TME before he or she can answer the call using CWT. Pressing the CWT key has no effect.

Ring Again

If a caller first activates RAG and then activates the TME, when the called party goes on-hook, the caller's RAG lamp flashes. The caller is placed in the call origination mode (as shown in the following figure) if he or she goes off-hook. If the caller accepts the call by pressing the 1 key, the TME is deactivated. The caller would then press the RAG key to ring the called party and continue with the call. However, the caller can also deactivate RAG by deleting the RAG key when the RAG lamp is flashing and the called party has gone off-hook.

Interactive Display Menu on MBS Sets (continued)

Call origination verification prompt

```
USE_PHONE 0  CONTINUE 1
```

Activation/deactivation by the end user

The end user presses the PF key or dials the PF access code to activate PF. (Refer to “MBS Power Feature - Name Programming" for details on PF access codes.) The following figure shows the PF main menu prompt displayed on the MBS. The end user presses the asterisk (*) key to view the list of PF features or presses the 0 key to exit PF.

PF main menu prompt

```
POWER FEATURES
*=NEXT 0=EXIT
```

All subsequent prompts in the PF menu are displayed in the format illustrated for RAG in the following figure. To select the currently displayed PF feature, the end user presses the 1 key. Although the `0=EXIT` prompt is not listed as a selection in a PF feature display, the end user can exit PF by pressing the 0 key.

Interactive Display Menu on MBS Sets (continued)

PF feature RAG prompt

```
RING AGAIN *=NEXT
1=SELECT #=BACK
```

To page through the list of features, the end user presses the asterisk key or the octothorpe (#) key.

If the end user attempts to answer a call by pressing a DN key when using option PF, the prompt shown in the following figure displays. This prompt instructs the end user to press the 0 key to exit and answer the phone, or to press the 1 key to continue the PF session.

PF exit prompt

```
0=EXIT TO USE PHONE
1=CONTINUE SESSION
```

Table flow for Interactive Display Menu on MBS Sets

The end user can also activate PF features by accessing the dial-by-feature-name PF capability at the PF main menu prompt. This capability is accessed by pressing the access code digit keys that correspond to PF feature and attribute names. For example, pressing the digits 74644 accesses RAG. Although the end user receives no display response, the PF feature or attribute dialed automatically opens. The display remains the same as the display shown in the previous figure. If the end user dials an incorrect feature access code, the display does not change. The end user presses the asterisk key to return to the PF main menu prompt or presses the 0 key to exit the PF session.

Note: The letter Q can be represented by DN key 1 or 7. The letter Z can be represented by DN key 9 or 0.

Interactive Display Menu on MBS Sets (continued)

The codes listed in the following table can be used to access PF features through the dial-by-feature-name capability.

PF feature and attribute access codes (Sheet 1 of 2)

PF feature or attribute	Access code
Administrative Control	236
Automatic Answer Back	267
Automatic Callback	222
Automatic Dial	288
Automatic Display	3477
Busy Lamp Field	287
Call Covering	268
Call Forwarding	36
Call Park	7275
Call Pickup	742
Call Waiting	9
Choose Language	52
Configure Addon	233
Directed Call Park	3473
Distinctive Ringing	39
Inspect	4
Leave Message	53
Make Set Busy	625
Message Waiting	63
Name Programming	626
Password Security	7277
Power Feature	76
Query Time and Date	846

Interactive Display Menu on MBS Sets (continued)

PF feature and attribute access codes (Sheet 2 of 2)

PF feature or attribute	Access code
Ring Again	74642
Security Lock	73
Three-Way Calling	847

Billing

Interactive Display Menu on MBS Sets does not affect billing.

Station Message Detail Recording

Interactive Display Menu on MBS Sets does not affect Station Message Detail Recording.

Datafilling office parameters

Interactive Display Menu on MBS Sets does not affect office parameters

Datafill sequence

The following table lists the tables that require datafill to implement Interactive Display Menu on MBS Sets. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Interactive Display Menu on MBS Sets

Table	Purpose of table
FTRGOPTS	Feature Group Options. This table assigns line options to all feature groups defined in an office. Table FTRGOPTS also specifies the characteristics of individual feature group options.
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) listed in table KSETLINE, and also the Meridian digital telephone sets and DUs listed in table IVDINV.
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.	

Datafilling table FTRGOPTS

Table FTRGOPTS (Feature Group Options) assigns line options to all feature groups defined in an office. Table FTRGOPTS also specifies the characteristics of individual feature group options. This table must be datafilled immediately following Table FTRGDEFS.

Interactive Display Menu on MBS Sets (continued)

The following table shows the datafill specific to Interactive Display Menu on MBS Sets for table FTRGOPTS. Only those fields that apply directly to Interactive Display Menu on MBS Sets are shown. For a description of the other fields, refer to the data schema section of this document.

The first datafill procedure shows how to assign option PF to a feature group. The second datafill procedure shows how to assign option PFCNTL to a feature group.

Datafilling table FTRGOPTS (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
FTRGRP		feature group name	Feature Group Name. This field specifies the name of the feature group to which the option is to be assigned. Enter the feature group name.
OPTION		PF	Option. This field specifies the option. Enter PF.
OPTVAR		see subfields	Option Variable Area. This field consists of subfields OPTION and PFOPT.
	OPTION	PF	Option. This subfield specifies the option. Enter PF.
	PFOPT	USER, PSWD, LANG, LOCK	Power Features Option. This subfield specifies the PF option. Enter up to two of the following options: Enter USER to specify the user level option. Enter PSWD to specify the password option. Enter LANG to specify the language option. Enter LOCK to specify the security lock option. If PFOPT is set to USER, subfield USER requires datafill.
	USER	GENERAL or ADMIN	User Level. This subfield specifies the user level. Enter one of the following values. Enter GENERAL to specify a general end user. Enter ADMIN to specify an administrator. If PFOPT is set to PSWD, subfield PASSWORD requires datafill.

Interactive Display Menu on MBS Sets (continued)

Datafilling table FTRGOPTS (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	PASSWORD	a number up to six digits long	Password. This subfield specifies the password option. Enter a number up to six digits long consisting of the numerals 0 to 9. If PFOPT is set to LANG, subfield LANGUAGE requires datafill.
	LANGUAGE	ENGLISH or FRENCH	Language. This subfield specifies the type of language to be displayed. Enter ENGLISH or FRENCH.

Datafilling Table FTRGOPTS (assigning option PFCNTL to a feature group)

Field	Subfield or refinement	Entry	Explanation and action
FTRGRP		feature group name	Feature Group Name. This field specifies the name of the feature group to which the option is to be assigned. Enter the feature group name.
OPTION		PFCNTL	Option. This field specifies the option. Enter PFCNTL.
OPTVAR		OPTION or PFAPPL	Option Variable Area. This field consists of subfields OPTION and PFAPPL.
	OPTION	PFCNTL	Option. This subfield specifies the option. Enter PFCNTL.
	PFAPPL	NAME, PSWD, LANG, KEYDEF	Power Features Application. This subfield specifies the PF application. For this feature, enter up to 4 of the following PF applications: Enter NAME to specify the name programming option. Enter PSWD to specify the password selection option. Enter LANG to specify the language selection option. Enter KEYDEF to specify the feature key definition option.

Datafill example for table FTRGOPTS

The following example shows sample datafill for Table FTRGOPTS for assigning option PF to two feature groups.

MAP display example for table FTRGOPTS assigning PF to two feature groups

```
FTRGRP    OPTION    OPTVAR
-------------------------------------------------
BNR14MBS   PF        PF    (LANG  FRENCH)
BNR05IBN   PF        PF    (USER GENERAL) $
```

The following example shows sample datafill for Table FTRGOPTS for assigning option PFCNTL to a single feature group.

MAP display example for table FTRGOPTS assigning PFCNTL to single feature group

```
FTRGRP    OPTION    OPTVAR
-------------------------------------------------
BNR16MBS  PFCNTL   PFCNTL   (PSWD)  $
```

Translation verification tools

Interactive Display Menu on MBS Sets does not use translation verification tools.

SERVORD

Table KSETFEAT is datafilled through SERVORD. KSETFEAT 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.

SERVORD limitations and restrictions

Interactive Display Menu on MBS Sets has no SERVORD limitations and restrictions.

Interactive Display Menu on MBS Sets (continued)

SERVORD prompts

Interactive Display Menu on MBS Sets adds option PF to MBSs with a display through SERVORD. Option PF is accessed by key or access code if the feature is assigned to key 1 on the MBS. The SERVORD commands ADO (add option), NEW (establish service), EST (establish a hunt or Call Pickup group), ADD (add line to a hunt group), and DEO (delete option) support option PF.

The following table shows the SERVORD prompts used to assign, Interactive Display Menu on MBS Sets to a line.

SERVORD prompts for Interactive Display Menu on MBS Sets

Prompt	Valid input	Explanation
OPTKEY	1-69	Specifies the number of the key to which option PF is to be assigned. Enter a value from 1 to 69.
OPTION	PF	Specifies the option to be added to the line. Enter PF.
PFOPT	USER, LANGUAGE, PASSWORD	Specifies a PF suboption. Enter USER to specify the class of user (general or administrator). Enter LANGUAGE to specify English or French. Enter PASSWORD to specify a numeric password of up to 6 digits.
USER	GENERAL, ADMIN	Specifies the class of the end user. Enter GENERAL (the default value) to specify that end users can only alter the PF features on their own sets. Enter ADMIN to specify that administrators can alter the PF features on any set in the customer group.
PASSWORD	6-digit numeric string	Specifies the password. Enter a number up to six digits consisting of the numerals 0 to 9.
Note: Table KSETFEAT is automatically datafilled when Interactive Display Menu on MBS Sets is assigned using SERVORD.		

SERVORD example for adding Interactive Display Menu on MBS Sets

The following SERVORD example shows how Interactive Display Menu on MBS Sets is added to an existing line using the ADO command.

Interactive Display Menu on MBS Sets (end)

SERVORD example for Interactive Display Menu on MBS Sets in prompt mode

```
SO:
>ADO
SONUMBER: NOW 92 12 21 PM
>
DN_OR_LEN:
>14 0 5 26
OPTKEY:
> 8
OPTION:
> PF
PFOPT:
>USER
USER:
> GENERAL
PFOPT:
> PSWD
PASSWORD:
> 123
PFOPT:
> $
OPTKEY:
> $
```

SERVORD example for Interactive Display Menu on MBS Sets in no-prompt mode

```
>ADO $ 14 0 5 26  8 PF USER GENERAL PSWD 123 $ $
```

MBS Power Feature - Name Programming

Ordering codes

Functional group ordering code: MDC00013

Functionality ordering code: not applicable

Release applicability

BCS30 and up

Prerequisites

To operate, MBS Power Feature - Name Programming has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC MBS Minimum, MDC00007

Description

MBS Power Feature - Name Programming introduces the Power Features (PF) capability for Meridian business sets (MBS) equipped with a 2-line by 24-character (or greater) display. Power Features provides the end user with the ability to add or remove features and to review data on any set in the customer group. MBS Power Feature - Name Programming is one such PF application that enables the MBS end user to add, change, or delete the name associated with the end user's directory number (DN) and network. End users designated as administrators can alter the names of other general end users.

In addition, MBS Power Feature - Name Programming provides the PF end user with the following capabilities:

- code access
- password security of DNs or set-related information
- a global command interpreter (CI) command for enabling and disabling PF

Operation

MBS Power Feature - Name Programming is described in the following paragraphs.

Keypad and display interaction

Power Features enables the end user to interact with the keypad and display through a series of text and softkeys. After activating PF, the end user is guided through a series of prompts. The top line of the display shows the current

MBS Power Feature - Name Programming (continued)

selection (for example, `NAME PROGRAMMING`), while the bottom line shows the options available for that selection (for example, `1=CHANGE, 0=EXIT`).

The end user responds to the prompts by pressing the key associated with the displayed option. After completion, the end user can continue with additional PF features or applications or can deactivate PF.

Alphanumeric entry

The keypad is also a substitute for alphanumeric entry. For example, to display the letter C, the end user presses the 2 key three times. The first entry produces the letter A on the display, the second entry produces the letter B and the third entry produces the letter C.

The following table shows which characters are produced by each key pressed by the end user.

Alphanumeric character entry

Key number	1st key pressed	2nd key pressed	3rd key pressed	4th key pressed	5th key pressed	6th key pressed	7th key pressed
1		1	.	'	-	,	:
2	A	B	C	2	A	B	C
3	D	E	F	3	D	E	F
4	G	H	I	4	G	H	I
5	J	K	L	5	J	K	L
6	M	N	O	6	M	N	O
7	P	R	S	7	P	R	S
8	T	U	V	8	T	U	V
9	W	X	Y	9	W	X	Y
0	Q	Z	0	Q	Z	0	Q

As the letters Q and Z and punctuation marks are not found on a telephone set, they are represented by pressing the 0 and 1 keys, as shown in the above table.

The prompt shown in the following figure indicates the keys used to correct errors in keypad entry. Pressing the asterisk key moves the cursor backward over the character to the left, while pressing the octothorpe (#) key moves the cursor forward over the character to the right.

MBS Power Feature - Name Programming (continued)

Correction keys prompt

```
*=<--  #=-->  HOLD=OK
```

Name programming

MBS Power Feature - Name Programming enables a PF end user to update (add, change, or delete) the name associated with his or her DN. The name is updated in Table DNATTRS (Directory Number Attributes) for the corresponding DN and network.

To restrict the number of datafill changes for a set or DN, an end user classification must be defined in Table KSETFEAT (Business Set and Data Unit Feature) for each set. An MBS with PF can be set to either general end user (the default value) or administrator. A general end user is only allowed to update the name associated with the DN on his or her set. An administrator is allowed to update the name associated with any DN in his or her customer group. This restriction enables the administrator to define his or her group of general end users who can update the name associated with their customer group. Only an administrator is prompted to enter a seven-digit DN or to press a line key. The general end user is only prompted to press a line key.

Multiple appearance directory numbers

A multiple appearance directory number (MADN) can have a maximum of 32 end user sets datafilled with the same DN shared by the members of the same group. The MADN group name is datafilled in Table DNATTRS, and each MADN group member name is datafilled in Table MDNMEM (Multiple Appearance Directory Number Member) through the Service Order System (SERVORD). If a MADN group member name is not datafilled in Table MDNMEM, the MADN group name from Table DNATTRS is used.

The DN of the MADN group is required if a MADN group's name is being changed by name programming. The line equipment number (LEN) of the end user's set is also required. The MADN group member name can be changed in Table MDNMEM.

When a general end user updates a name, pressing a line key displays the name datafilled in Table DNATTRS or Table DNGRPS (Directory Number Groups).

MBS Power Feature - Name Programming (continued)

If the DN is a MADN group member, the display shows the name datafilled in Table MDNMEM, Table DNATTRS, or Table DNGRPS.

When the administrator updates a name, entering a DN displays the name datafilled in Table DNATTRS or Table DNGRPS. If the administrator enters the DN of a MADN group member, the administrator is prompted to update a group name or member name. If the administrator selects the group name, the update is executed for the group name. If the administrator selects the member name, a list of member names is displayed. The administrator then selects the name of the particular member to be updated.

If an administrator tries to change a MADN group member's name, a list of all members' names is displayed. If a member's name is not datafilled in Table MDNMEM, a blank screen is displayed. (In this case, SERVORD should be used to datafill the MADN group member's name.)

Code access

Code access is an alternate means of activating PF from an MBS display set without pressing the PF key. To activate PF using code access, PF must first be datafilled against an access number in Table IBNXLA (IBN Translation). The end user would then dial the datafilled access number to activate PF.

Password security

A password can be defined for each end user set to control and limit access to PF. Passwords are datafilled for each end user set in Table KSETFEAT through SERVORD. The end user enters a password up to six digits long and consisting of the numerals 0 to 9. If a password is not datafilled for a set, no password entry prompts appear during name programming activation.

Enabling and disabling PF

The CI command terminal management environment (TME) is used by telephone operating company personnel to enable or disable PF features. When PF is disabled, the PF end user can access name programming, but all updates are disabled. The following figure shows the prompt that displays when an end user has attempted to access name programming after updates have been disabled.

```
UPDATE NOT ALLOWED
CONTINUE? 1=YES, 2=NO
```

MBS Power Feature - Name Programming (continued)

To access the PF CI command, telephone operating company personnel enter TME from a MAP (maintenance and administration position) and then enter the STATUS parameter to display a list of enabled or disabled PF features. Any of the displayed features or attributes on the switch, including name programming, can be reset.

Translations table flow

The MBS Power Feature - Name Programming translations tables are described in the following list:

- Table KSETFEAT (Business Set and Data Unit Feature) lists the line features that are assigned to the business sets and data units listed in Table KSETLINE (Business Set and Data Unit Line Assignment). For the MBS end user who activates PF by pressing a PF key, Table KSETFEAT must be datafilled to assign the PF feature key. End user passwords and access to PF attributes can be assigned through Table KSETFEAT.
- Table XLANAME (List of Translator Names) controls the addition and deletion of translators in Table IBNXLA. When no access code is found in Table IBNXLA for a specified translator, default data from Table XLANAME is used.

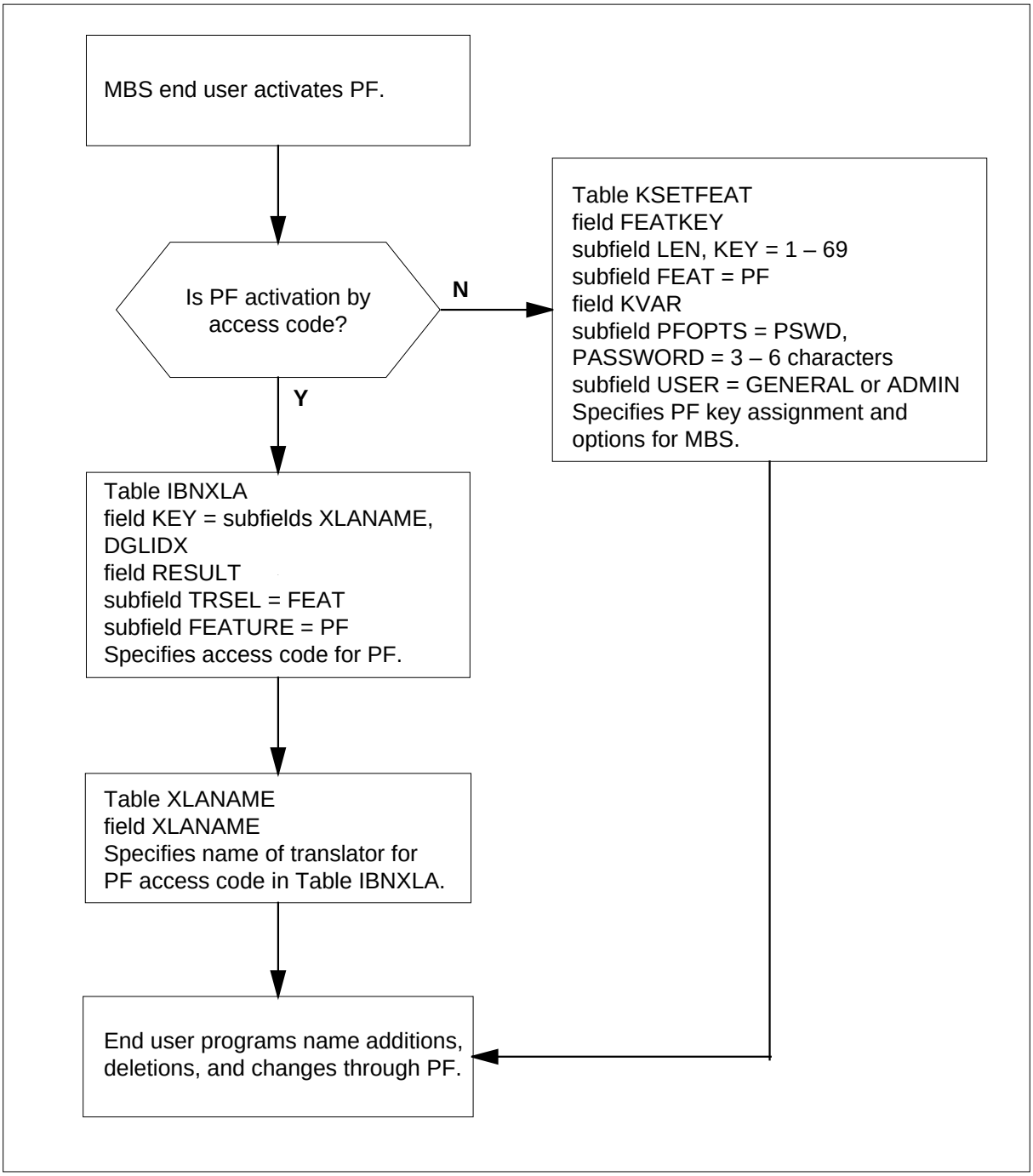
  Note: MBS Power Feature - Name Programming requires that Table XLANAME be datafilled to assign a translator before datafilling Table IBNXLA.

- Table IBNXLA (IBN Translation) stores the data for the digit translation of calls from an IBN station, an attendant console (AC), or an incoming side of a two-way IBN trunk group. Table IBNXLA enables a general end user to change the name associated with a DN or enables an administrator to change general end users' names. For the MBS end user who activates PF by dialing an access code, Table IBNXLA must be datafilled to assign the access code.

The MBS Power Feature - Name Programming translation process is shown in the flowchart that follows.

MBS Power Feature - Name Programming (continued)

Table flow for MBS Power Feature - Name Programming



MBS Power Feature - Name Programming (continued)

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

Datafill example for MBS Power Feature - Name Programming

Datafill table	Example data
KSETFEAT	HOST 0 0 3 08 6 PF PF USER ADMIN $
	HOST 0 0 3 10 4 PF PF PSWD 347 $
IBNXLA	CUSTXLA 99 FEAT Y N N PF

Limitations and restrictions

The following limitations and restrictions apply to MBS Power Feature - Name Programming:

- MBS Power Feature - Name Programming can only be accessed on MBSs with a 2-line by 24-character (or greater) display.
- The maximum name length allowed is 15 characters.
- Only uppercase letters are supported during keypad entry for MBS display.
- A call origination (off-hook) or line selection is required to initiate code access to PF.
- MBS Power Feature - Name Programming does not support central control (CC) switch of activity (SWACT), XMS-based peripheral module (XPM) SWACTs, warm restarts, cold restarts, or reload restarts.
- The PF key can be used for activation and deactivation. If the PF key is pressed during a TME session envoked from dialing the PF access code, the session is terminated.
- Ensure an entry for Public and Private NETNAMES is identified in table NETNAMES and the NETNAMES Public, Private, or both are entered in table CUSTNTWK for the MDC customer groups or the MBS Power Feature - Name Programming will not activate.

Interactions

The following paragraph describe the interactions between MBS Power Feature - Name Programming and MADN.

MADN

If an administrator tries to update a MADN group member's name using name programming, a list of all members' names is displayed. If a MADN group member's name has not been datafilled, a blank screen is displayed. Therefore, to ensure that a MADN group member's name is available to be updated, initially the administrator should use SERVORD to datafill the name.

MBS Power Feature - Name Programming (continued)

Activation/deactivation by the end user

The end user activates MBS Power Feature - Name Programming by pressing the PF key on an MBS or by dialing the PF access code. A series of prompts on the MBS display guides the end user through the activation steps. (For details on programming the PF key, refer to “Service orders" in this feature description. For details on programming the PF access code, refer to “Datafill procedure for Table IBNXLA" in this feature description.)

To deactivate MBS Power Feature - Name Programming, the end user presses the 0 key whenever a prompt with the 0=EXIT option displays, as shown in the following figure.

PF main menu prompt

```
POWER FEATURES
*=NEXT, 0=EXIT
```

In addition, pressing the Release (RLS) key exits PF at any time during its activation.

Billing

MBS Power Feature - Name Programming does not affect billing.

Station Message Detail Recording

MBS Power Feature - Name Programming does not affect Station Message Detail Recording.

Datafilling office parameters

MBS Power Feature - Name Programming does not affect office parameters.

MBS Power Feature - Name Programming (continued)

Datafill sequence

The following table lists the tables that require datafill to implement MBS Power Feature - Name Programming. The tables are listed in the order in which they are to be datafilled.

Note: Before assigning option PF to a new customer group, make sure that the customer group tuple exists in table CUSTNTWK.

Datafill tables required for MBS Power Feature - Name Programming

Table	Purpose of table
KSETFEAT	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. ***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.
IBNXLA	IBN Translation. This table contains the feature access codes for a customer group.

Note: Ensure an entry for Public and Private NETNAMES is identified in table NETNAMES and the NETNAMES Public, Private, or both are entered in table CUSTNTWK for the MDC customer groups or the MBS Power Feature - Name Programming will not activate.

Datafilling table IBNXLA

Table IBNXLA (IBN Translation) contains the feature access codes for a customer group. Table IBNXLA must be datafilled to define a feature access code for activating PF.

The following table shows the datafill specific to MBS Power Feature - Name Programming for table IBNXLA. Only those fields that apply directly to MBS

MBS Power Feature - Name Programming (continued)

Power Feature - Name Programming 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
KEY		see subfield	Key. This field consists of subfields XLANAME and DGLIDX.
	XLANAME	1-8	Translator Name. This subfield specifies the name assigned to the translator in Table XLANAME. Enter a 1- to 8-character name.
	DGLIDX	0-9	Digilator Index. This subfield specifies the digit or digits assigned as an ambiguous code. Enter any value from 0 to 9 and any letter from B to C or B to F, depending on the value set in field MAXDIG in Table XLANAME.
RESULT		see subfield	Result. This field consists of subfields TRSEL, ACR, SMDR, VCDR, and FEATURE.
	TRSEL	FEAT	Translation Selector. This subfield specifies the translation selector. Enter FEAT.
	ACR	Y or N	Account Code Entry. This subfield specifies whether an account code is required for all calls to the feature access code. Enter Y or N.
	SMDR	Y or N	Station Message Detail Recording. This subfield specifies whether all calls from a customer group station or AC to any station in the block of station numbers are recorded. Enter Y or N.
	VCDR	Y or N	Variable Call Detail Record. This subfield specifies whether variable call detail record billing is required. Enter Y or N.
	FEATURE	PF	Feature. This subfield specifies the name of the feature. Enter PF.

Datafill example for table IBNXLA

The following example shows sample datafill for table IBNXLA.

MBS Power Feature - Name Programming (continued)

MAP display example for table IBNXLA

```
KEY                                                    RESULT
_____________________________________________________________

CUSTXLA   99                          FEAT   Y    N    N     PF
```

Translation verification tools

MBS Power Feature - Name Programming does not use translation verification tools.

SERVORD

SERVORD is used to datafill table KSETFEAT.

Table KSETFEAT (Business Set and Data Unit Feature) 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.

MBS Power Feature - Name Programming creates line option PF. The SERVORD commands ADO (add option), DEO (delete option), NEW (establish service), EST (establish a hunt or Call Pickup group), and ADD (add line to a hunt group) support this option.

SERVORD limitations and restrictions

MBS Power Feature - Name Programming has no SERVORD limitations and restrictions.

SERVORD prompts

The following table shows the SERVORD prompts used to assign MBS Power Feature - Name Programming to a line.

SERVORD prompts for MBS Power Feature - Name Programming (Sheet 1 of 2)

Prompt	Valid input	Explanation
OPTKEY	1-69 for MBS	Specifies the number of the key to which option PF is to be assigned. Enter a value from 1 to 69.
OPTION	PF	Specifies the option to be added to the line. Enter PF.

MBS Power Feature - Name Programming (continued)

SERVORD prompts for MBS Power Feature - Name Programming (Sheet 2 of 2)

Prompt	Valid input	Explanation
PFOPT	USER, LANGUAGE, PASSWORD	Specifies a PF suboption. Enter USER to specify the class of user (general or administrator). Enter LANGUAGE to specify English or French. Enter PASSWORD to specify a numeric password of up to 6 digits.
USER	GENERAL, ADMIN	Specifies the class of the end user. Enter GENERAL (the default value) to specify that end users can only alter the PF features on their own sets. Enter ADMIN to specify that administrators can alter the PF features on any set in the customer group.
PASSWORD	6- digit numeric string	Specifies the password. Enter a number up to six digits consisting of the numerals 0 to 9.

Note: Table KSETFEAT is automatically datafilled when MBS Power Feature - Name Programming is assigned using SERVORD.

SERVORD example for adding MBS Power Feature - Name Programming

The following SERVORD example shows how option PF of MBS Power Feature - Name Programming is added to an existing line using the ADO command.

MBS Power Feature - Name Programming (end)

SERVORD example for MBS Power Feature - Name Programming in prompt mode

```
SO:
>ADO
SONUMBER:   NOW 92  12  21  PM
>
DN_OR_LEN:
>0 0 10 21
OPTKEY:
>8
OPTION:
>PF
PFOPT:
>USER
USER:
>GENERAL
PFOPT:
>PSWD
PASSWORD:
>123
PFOPT:
>$
OPTKEY:
>$
```

SERVORD example for MBS Power Feature - Name Programming in no-prompt mode

```
>ADO $ 0 0 10 21 8 PF USER GENERAL PSWD 123 $ $
```

MDC Single Button Transfer

Ordering codes

Functional group ordering code: MDC00013

Functionality ordering code: not applicable

Release applicability

BCS31 and up

Prerequisites

To operate, MDC Single Button Transfer has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC MBS Minimum, MDC00007

Note: MDC MBS Minimum, MDC00007 is required when a Meridian Business Set (MBS) is used as a PSAP.

Description

This package allows a business set subscriber, in this case a PSAP operator, to perform call transfer by pressing a single key, the Quick Conference key.

Operation

This package allows a business set subscriber, in this case a PSAP operator, to perform call transfer by pressing a single key, the Quick Conference key. Pressing the Quick Conference key replaces generating a flash with a speed calling code or directory number. Use of this key reduces the number of steps that otherwise are needed to complete the conference call.

The subscriber can program the number for the Quick Conference key. Service orders control whether the subscriber is given this capability. If the subscriber is not allowed to program the key, the number can be entered only through service orders or table editor.

Translations table flow

When the Quick Conference key is pressed by the PSAP operator, translations first determine if the key has the QCK (Quick Conference key) option in Table KSETFEAT and then looks up the digits of the add-on party in Table KSETQCK.

MDC Single Button Transfer (continued)

Limitations and restrictions

The following limitations and restrictions apply to MDC Single Button Transfer:

- A user can assign a maximum of 12 Quick Conference keys to each Meridian business set.
- The Quick Conference key option can be assigned to the following Meridian business sets:
  - Meridian 2008 set
  - Meridian 2009 set
  - Meridian 2016S set
  - Meridian 2018 set
  - Meridian 2112 set
  - Meridian 2216 set
  - Meridian 2317 set
  - Meridian 2616 set
  - Meridian 3000 set
  - Meridian 5009 set
  - Meridian 5112 set
  - Meridian 5209 set
  - Meridian 5312 set
  - PSET (proprietary business set)

Interactions

MDC Single Button Transfer has no functionality interactions.

Activation/deactivation by the end user

There are three actions end users perform to use this feature. They can program the Quick Conference key, verify the key is programmed correctly, and activate a call transfer using the key.

MDC Single Button Transfer (continued)

Programming the Quick Conference key

At your telephone

1 While there is no active call and the handset is on-hook, press the Quick Conference key.

Response:

The Quick Conference key lamp begins flashing.

If the Meridian business set is equipped with a display, the directory number or speed calling code currently stored for dialing is displayed.

To interrupt programming of the Quick Conference key at any time, press the Release key. The original value will be restored. Incoming calls cause the directory number key to flash while programming is in progress. The user has the option to answer the call, which cancels programming, or to continue.

2 Enter a valid directory number or speed calling code.

Response:

The entered value appears on the Meridian business set display.

Speed calling codes have one or two digits. Speed calling codes in the form *1X, where X is from 1 through 6 index Table E911ESN. Other one- and two-digit codes index a speed calling directory number list. The maximum directory number that can be entered directly is 15 digits.

3 Press the Quick Conference key.

Response:

The Quick Conference key lamp stops flashing. The directory number or speed calling code entered has been stored.

The Meridian business set display clears.

The following procedure shows the steps for telephone subscribers to assign a directory number or speed calling code to a Meridian business set key. Before this procedure can be performed, the Meridian business set user must be given permission through the service order system (SERVORD).

Verifying Quick Conference key programming

At your telephone

1 While there is no active call and the handset is on-hook, press the Inspect key.

Response:

If the Meridian business set has a display, the following message appears.

MDC Single Button Transfer (continued)

```
INSPECT MODE
PRESS A KEY
```

2 Press the Quick Conference key.

Response:

The first line of the display identifies the Quick Conference key as the one being verified. It also shows whether the key is programmable by the subscriber or by service orders. The second line displays the number or indicates the key has not been programmed.

The following procedure explains how to verify the number currently assigned to the Quick Conference key using the INSPECT service order option. The INSPECT option is assigned to another Meridian business set key. The Meridian business set must be equipped with a display for this procedure to be performed.

Transferring an emergency call using the Quick Conference key

The following procedure, located in the section, “Datafill sequence", describes the steps to perform a call transfer using the Quick Conference key once a two-party call is in progress. Error treatments will occur while the transfer is being set up if the following apply:

- The Quick Conference key has been programmed with a speed calling code but the SCL (Speed Calling Long) and SCU (Speed Calling User) options have not been assigned to the Meridian business set line.
- The programmed number cannot be translated.
- No three-port conference circuit is available.
- The Meridian business set handset has been taken off-hook and dial tone is received before the Quick Conference key has been pressed.

Billing

MDC Single Button Transfer does not affect billing.

Station Message Detail Recording

MDC Single Button Transfer does not affect Station Message Detail Recording.

Datafilling office parameters

MDC Single Button Transfer does not affect office parameters.

MDC Single Button Transfer (continued)

Datafill sequence

The following table lists the tables that require datafill to implement MDC Single Button Transfer. The tables are listed in the order in which they are to be datafilled.

Note: These tables are datafilled through SERVORD; therefore, no datafill procedure or example is provided. Refer to “SERVORD" for an example of using SERVORD to datafill these tables.

Datafill tables required for MDC Single Button Transfer

Table	Purpose of table
KSETFEAT	Business Set and Data-Unit Feature Table. 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.
KSETQCK	Business Set and Data-Unit Line Assignment. This table associates a directory number or speed calling code with each Quick Conference key defined in Table KSETFEAT.

Datafilling the two tables associated with this feature package, Tables KSETFEAT and KSETQCK, is performed through service orders after the Line or Automatic Call Distribution (ACD) PSAP groups and members have been configured in Tables HUNTGRP and HUNTMEM.

The QCK option must be assigned to Table KSETFEAT before the speed dial code can be assigned to Table KSETQCK.

Using the Quick conference key to transfer an emergency call

At your current location:

1. With a two-party emergency call active, press the Quick Conference key.

   The Quick Conference key lamp lights.

   If the Meridian business set is equipped with a display, the directory number or speed calling code/directory number of the party being added is shown. If directory number programming is incorrect, the user hears an appropriate recorded announcement.

   The Directory Number key lamp flashes to indicate the calling party is on hold.

   With 3WCPUB (three-way calling with public announcement) assigned to the primary Directory Number key, the calling party automatically is bridged 1 s after the transfer is initiated without requiring the add-on party

MDC Single Button Transfer (continued)

to actually answer. In this case, the directory number is displayed for 1 s before the word CONFERENCE replaces it.

2. To complete the transfer, hang up the Meridian business set receiver.

   or

   To disconnect the add-on party, press the Quick Conference key which invoked the transfer.

   If the Meridian business set has a display, the directory number of the calling party reappears.

   The CXR (call transfer) or 3WC (three-way calling) option can be assigned to an available key by the operating company. This key enables the user to disconnect the add-on party without having to remember which Quick Conference key was used to initiate the transfer in the first place.

Translation verification tools

MDC Single Button Transfer does not use translation verification tools.

SERVORD

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

Table KSETFEAT 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.

Table KSETQCK associates a directory number or speed calling code with each Quick Conference key defined in Table KSETFEAT. Since subscribers are allowed to program call transfer numbers in this table, its contents must be dumped and restored during each batch change supplement (BCS) application to ensure that it stays current.

The QCK option is assigned to a Meridian business set with a NEW or ADO service order command. A subscriber's ability to control programming of the Quick Conference key is entered into Table KSETQCK by service orders.

Service order limitations and restrictions

The following limitations and restrictions apply:

- The QCK option can be assigned to a Meridian business set, which enables single button transfer from the set. The recommended set of options to support this feature includes QCK, 3WCPUB (assigned to the primary primary directory number), and CXFER (datafilled in Table CUSTSTN for the customer group assigned to the Meridian business set). The 3WCPUB

option makes three-party bridging automatic. Assigning the service order option CXR to an available key is an acceptable alternative to datafilling CXFER.

- If a user fails to enter the transfer directory number for the QCK option with a service order once the USERPGM field in Table KSETFEAT is set to N, a message is displayed.
- When the peripheral that supports the SLQ agent is cold swacted, all the callers in the queue will dequeue and will get sent to treatment, yet will leave the SLQ agent logged in.

SERVORD prompts

The following table shows the SERVORD prompts used for MDC Single Button Transfer with a Line Appearance on a Digital Trunk (LDT) PSAP.

SERVORD prompts for MDC Single Button Transfer LDT PSAP

Prompt	Valid input	Explanation
OPTION	QCK	Indicates the Meridian business set connected to the line is being assigned the Quick Conference key option.
USERPGM	Y or N	Indicates whether a Quick Conference key can be programmed by a subscriber. The field is a subprompt associated with the QCK option.
QCKDN	Digits 0 to 9, B or $	Indicates the code used with the QCK option to establish a calling link to the add-on party. Speed calling codes are in the form Bxy, where x and y are the speed calling digits. Directory numbers are entered as digit strings. A value of B corresponds to * on the subscriber keypad. A value of $ indicates the subscriber has the programming option and will enter this value. USERPGM must be set to Y for this input to be valid.

Service order implementation for MDC Single Button Transfer

The following service order example shows how to use the ADO command to add the QCK option to Meridian business set keys.

MDC Single Button Transfer (continued)

Configuring a Quick Conference key on a Line or ACD PSAP Meridian business set in prompt mode

```
>SERVORD
SO:
>ADO
SONUMBER:  NOW 89 11 23 AM
>(CR)
DN_OR_LEN
>0 0 16 4
OPTKEY:
>6
OPTION:
>QCK
USERPGM:
>Y
QCKDN:
>6212001
>7
OPTION:
>QCK
USERPGM:
>N
QCKDN:
>B11
OPTKEY
>8
OPTION:
>QCK
USERPGM:
>Y
QCKDN:
>$
OPTKEY:
>1
OPTION:
>3WCPUB
LOOPCON:
>N
OPKEY:
>$
```

MDC Single Button Transfer (end)

Configuring a Quick Conference key on a Line or ACD PSAP Meridian business set in prompt mode (continued)

```
COMMAND AS ENTERED:
ADO NOW  89 11 23 AM 0 0 16 4 ( 6 QCK Y 6212001 )
( 7 QCK N B11 ) ( 8 QCK Y $ ) ( 1 3WCPUB N ) $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
>Y
```

SERVORD example for MDC Single Button Transfer in no-prompt mode

```
> ADO  (CR) 0 0 1 6 4 6 QCK 6212001 7 QUK N B11 6 QCK Y $ 1
3WCPUB N $ Y
```

Power Feature Audit Trails

Ordering codes

Functional group ordering code: MDC00013

Functionality ordering code: not applicable

Release applicability

BCS34 and up

Prerequisites

To operate, Power Feature Audit Trails has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC MBS Minimum, MDC00007

Description

Power Feature Audit Trails enables operating company personnel to generate journal file entries and log reports, which create an audit trail when end users change features or attributes associated with their positions.

Operation

The operation of Power Feature Audit Trails depends on the use of Table PFCTRL (Power Feature Control) in translations. Refer to “Datafill procedure for Table PFCTRL" in this feature description for details on datafilling this table.

Background

Power Features (PF) provides end users with access to some functions of the Service Order System (SERVORD) through their Meridian business sets (MBS) or Meridian functional terminals (MFT). With PF, end users can add, change, delete, customize, or view the data attributes of their sets. These attributes include key assignments, name programming, and certain feature assignments. In some cases, an administrator can change the data attributes for one set from another set. (Refer to “Power Features Enhancements I" for details on PF capabilities.)

The terminal management environment (TME) provides end users with an environment that integrates independent packages or applications. These applications add functions for setting operation and control of available services. Power Features is one of these applications. The TME provides the end user interface to PF and other applications.

Power Feature Audit Trails (continued)

Power Feature Audit Trails provides an audit trail to record the datafill changes made by a PF end user. The audit trail consists of a journal file entry and log report TME102. Log report 102 is generated whenever an end user updates the switch database through the TME, and can be directed to a separate file to be processed for billing. The journal file entry is used by downstream processing applications that obtain their data from the journal file.

Audit trail generation

The audit trail for Power Feature Audit Trails is generated when an end user updates the switch database. For the audit trail, both a journal file entry and a log report are generated. The journal file entry and the log report record the following information:

- date and time of the change
- directory number (DN) of the set affected by the datafill
- DN of the administrator's set generating the datafill
- customer group name of the administrator and the end user
- name of the affected table
- affected data tuple
- table operation (add, delete, or change).

Power Feature Audit Trails adds the DN and customer group name to the journal file entry and adds the affected data tuple to the log report.

Journal file format

The following figure shows display output from the JFPRINT (journal file print) command after the journal file has been updated when the audit trail is activated.

Example of a journal file with the audit trail activated

```
WARNING:  JFPRINT GENERATES VALID OUTPUT ONLY IF RUN ON THE SAME IMAGE
    WHICH CREATED THE JF.


JF ID: 2, CREATION TIME: 1991/09/10 00:33:33 ORIGINATOR: UNKNOWN
PF USER DN: 6137227020, PFADMIN DN: 6137227020, PF CUSTGRP: CUSTGRP1
:
TAB KSETFEAT
ADD HOST 0 0 17 24 3 RAG RAG
QUI
```

The following figure shows display output from the JFPRINT command after the journal file has been updated when the audit trail is not activated.

Power Feature Audit Trails (continued)

Example of a journal file with the audit trail activated

```
WARNING:  JFPRINT GENERATES VALID OUTPUT ONLY IF RUN ON THE SAME IMAGE
    IMAGE WHICH CREATED THE JF.


JF ID: 2, CREATION TIME: 1991/09/10 00:33:33 ORIGINATOR: UNKNOWN
TAB KSETFEAT
ADD HOST 0 0 17 24 3 RAG RAG
QUI
```

Future upgrades

If additional update types are introduced by a PF upgrade, Table PFCTRL displays these additions only for the default customer group. However, since they were not previously supported, the update types are disabled even though they appear in Table PFCTRL for the default customer group. The end user must manually enable each new type listed in Table PFCTRL and enable the corresponding audit trail settings.

Previous settings for update types and audit trails are not affected by upgrades.

Translations table flow

The Power Feature Audit Trails translations process is shown in the flowchart in the following figure. The flowchart and data show how Power Features Audit Trail is datafilled, resulting in a journal file and log report.

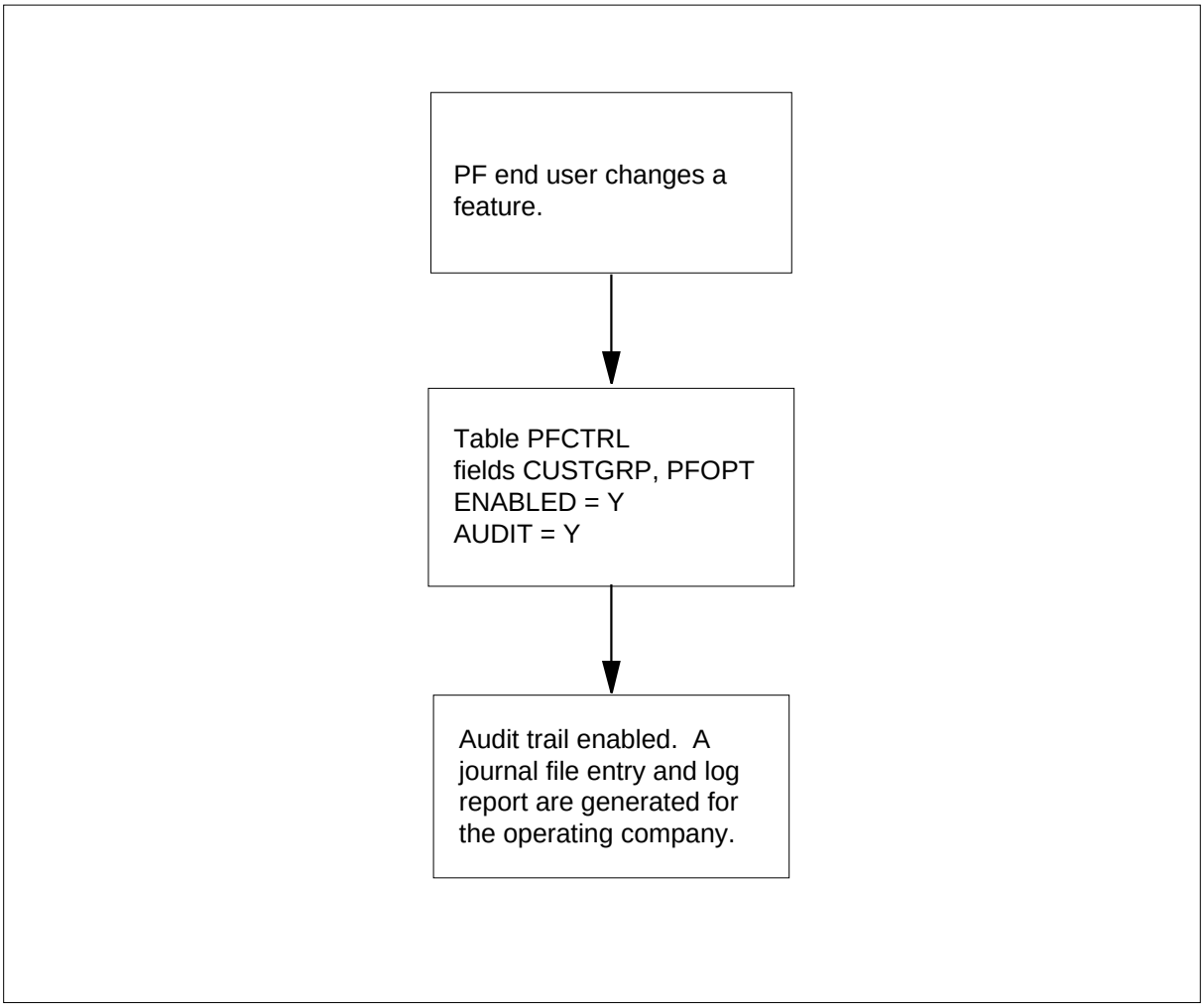
The Power Feature Audit Trails translations tables are described in the following paragraph:

Table PFCTRL (Power Feature Control) activates the audit trail. Power Feature Audit Trails is enabled by setting field ENABLED to Y and disabled by setting field ENABLED to N. An additional field, AUDIT, allows telephone operating company personnel to activate or deactivate the audit trail for specific features within Power Feature Audit Trails. Power features are assigned through field PFOPT for the specified customer group.

The Power Feature Audit Trails translation process is shown in the flowchart that follows.

Power Feature Audit Trails (continued)

Table flow for Power Feature Audit Trails



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

Datafill example for Power Feature Audit Trails

Datafill table	Example data
PFCTRL	PFDEFAULT RAG Y Y

Limitations and restrictions

Power Feature Audit Trails has no additional limitations or restrictions that are not covered in other documentation about PF. Refer to “Power Features Enhancements I" for information on PF limitations and restrictions.

Power Feature Audit Trails (continued)

Interactions

The following paragraphs describe the interactions between Power Feature Audit Trails and other functionalities.

The following features interact with Power Feature Audit Trails:

- Call Pickup

  Power Feature Audit Trails interacts with Call Pickup (CPU) under the following situations for both end users and administrators. When moving a set from one CPU group to another existing CPU group, one TME102 log report and one journal file entry are generated, indicating that a tuple in Table KSETFEAT (Business Set and Data Unit Feature) has been changed. When moving a set from one CPU group to a new CPU group, two TME102 log reports and two journal file entries are generated. The first log report and the first journal file entry indicate that a tuple has been deleted from Table KSETFEAT. The second log report and the second journal file entry indicate that a tuple has been added to Table KSETFEAT.

- Call Forwarding

  When Call Forwarding (CFW) is added to a set for the first time, one TME102 log report and one journal file entry are generated, indicating that a tuple was added to Table KSETFEAT. No log report or journal file entry is generated to indicate a change to Table CFX (Call Forwarding) because this change occurs through table control, not by the TME.

  When CFW is deleted from a feature key, three TME102 log reports and one journal file entry are generated. The first log report indicates that CFW was deleted from the feature key in Table KSETFEAT. The second log report indicates that CFW was added to the first feature key by Table KSETFEAT. The third log report and the journal file entry indicate that a tuple was replaced in Table CFX.

  If CFW exists on feature key 1 and is added to a different feature key, three log reports and one journal file entry are generated. The first log report indicates that CFW was deleted from feature key 1 in Table KSETFEAT. The second log report indicates that CFW was added to the feature key in Table KSETFEAT. The third log report and the journal file entry indicate that a tuple was replaced in Table CFX.

  If command CHA is used to change the forwarding numbers or the CFW activation status, one TME102 log report and one journal file entry are generated when the audit trail is enabled for Call Forwarding Universal

(CFU) or Call Forwarding Intragroup (CFI). The log report and the journal file entry indicate that Table CFX was changed.

- MBS Automatic Dial

  If MBS Automatic Dial is added to a set using the TME, two TME102 log reports and two journal file entries are generated. The first log report and the first journal file entry indicate that a tuple was added to Table KSETFEAT. The second log report and the second journal file entry indicate that a tuple was added to Table IBNSC (IBN Speed Calling List).

  If MBS Automatic Dial is deleted from a set, two TME102 log reports and two journal file entries are generated. The first log report and the first journal file entry indicate that a tuple was deleted from Table KSETFEAT. The second log report and the second journal file entry indicate that tuple was deleted from Table IBNSC.

  If command CHA is used to change the MBS Automatic Dial DN, one TME102 log report and one journal file entry are generated to indicate that a tuple was changed in Table IBNSC. (Table KSETFEAT is not affected.)

Activation/deactivation by the end user

Activation by the end user

Power Feature Audit Trails is activated through Table PFCTRL by enabling the datafill updates. It is activated for an individual feature in a customer group. If activated, Power Feature Audit Trails generates a journal file entry and an entire log report when a PF end user in the specified customer group changes a feature. Both the journal file entry and the log report record the following information:

- the changed data
- the DN of the administrator who generated the change
- the DN of the end user affected by the change.

If the audit trail is not activated, a journal file entry is generated without audit trail information. If the journal file is inactive, a log report is generated without audit trail information.

An audit trail can be activated by the CHA (change) command, which changes the value of field AUDIT in the update's tuple in Table PFCTRL.

The following figure shows an example of activating an audit trail for the Ring Again (RAG) feature.

Power Feature Audit Trails (continued)

Example of activating an audit trail for RAG

```
>TABLE PFCTRL
TABLE: PFCTRL
>POS CUSTGRP1 RAG
CUSTGRP1 RAG   N   N
>CHA
ENABLE: N
>Y
AUDIT: N
>Y
TUPLE TO BE CHANGED:
CUSTGRP1  RAG  Y   Y
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
>Y
TUPLE CHANGED
```

As a result of this example, a journal file entry and a log report are generated.

Deactivation by the end user

Power Feature Audit Trails is deactivated through Table PFCTRL separately for each datafill update.

An audit trail can be deactivated by the CHA (change) command, which changes the value of field AUDIT in the update's tuple in Table PFCTRL.

The following figure shows an example of deactivating an audit trail for the RAG feature.

Example of deactivating an audit trail for RAG

```
>TABLE PFCTRL
TABLE: PFCTRL
>POS CUSTGRP1 RAG
CUSTGRP1 RAG  Y   Y
>CHA
ENABLE: Y
>Y
AUDIT: Y
>N
TUPLE TO BE CHANGED:
CUSTGRP1  RAG  Y   N
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
>Y
TUPLE CHANGED
```

Billing

Power Feature Audit Trails does not affect billing.

Station Message Detail Recording

Power Feature Audit Trails does not affect Station Message Detail Recording.

Datafilling office parameters

Power Feature Audit Trails does not affect office parameters.

Datafill sequence

Table PFCTRL (Power Feature Control) enables operating company personnel to activate or deactivate an audit trail for PF end users.

The following table lists the tables that require datafill to implement Power Feature Audit Trails. The tables are listed in the order in which they are to be datafilled.

Note: Before assigning option PF to a new customer group, make sure that the customer group tuple exists in table CUSTNTWK.

Datafill tables required for Power Feature Audit Trails

Table	Purpose of table
PFCTRL	Power Feature Control. This table enables operating company personnel to activate or deactivatean audit trail for PF end users.

Power Feature Audit Trails (continued)

Datafilling table PFCTRL

The following table shows the datafill specific to Power Feature Audit Trails for table PFCTRL. Only those fields that apply directly to Power Feature Audit Trails are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table PFCTRL

Field	Subfield or refinement	Entry	Explanation and action
CUSTGRP		customer group name	Customer Group. This field specifies the name of the customer group. Enter the appropriate customer group name.
PFOPT		abbreviation corresponding to the PF feature name	Power Features Option. This field specifies the feature to be assigned as a PF feature. Enter the abbreviation corresponding to the PF feature name. ***Note:*** See the following table for a list of feature names that can be assigned as PF features in field PFOPT.
ENABLED		Y or N	Enabled. This field specifies whether the feature assigned in field PFOPT is enabled or disabled. Enter Y if the feature is enabled, or enter N if the feature is disabled.
AUDIT		Y or N	Audit. This field specifies whether the audit trail is generated. Enter Y to enable the audit trail, or enter N to disable the audit trail.

Assignable feature and attribute names

The following table lists the feature and attribute names that can be assigned as PF features in field PFOPT of Table PFCTRL. Options only appear in Table PFCTRL if they are available in the switch.

Assignable feature and attribute names (Sheet 1 of 3)

Abbreviation	Feature or attribute name
AAB	Auto Answer Back
ADMIN_CTRL	Administrator Control
AUTODISP	Auto Display

Power Feature Audit Trails (continued)

Assignable feature and attribute names (Sheet 2 of 3)

Abbreviation	Feature or attribute name
AUD	Autodial
BLF	Busy Lamp Field
CADDON	Configure Add On
CCV	Call Covering
CFI	Call Forwarding Intragroup
CFU	Call Forwarding Universal
CPHONE	Configure Phone
CPU	Call Pickup
CWT	Call Waiting
DCPK	Directed Call Park
DRING	Distinctive Ringing
EMW	Executive Message Waiting
INSPECT	Inspect
LANG	Choose Language
LVM	Leave Message
MIPHONE	MiPhone
MSB	Make Set Busy
MWT	Message Waiting
NAME	Name Programming
PF	Power Features
PRK	Call Park
PSWD	Power Features Password
QTD	Query Time and Date
RAG	Ring Again

Power Feature Audit Trails (end)

Assignable feature and attribute names (Sheet 3 of 3)

Abbreviation	Feature or attribute name
SLOCK	Security Lock
3WC	Three-Way Calling

Datafill example for table PFCTRL

The following example shows sample datafill for table PFCTRL.

MAP display example for table PFCTRL

```
CUSTGRP       PFOPT       ENABLED      AUDIT
_____________________________________________________
 PFDEFAULT      RAG          Y            Y
```

Translation verification tools

Power Feature Audit Trails does not use translation verification tools.

SERVORD

Power Feature Audit Trails does not use SERVORD.

Power Features Enhancements I

Ordering codes

Functional group ordering code: MDC00013

Functionality ordering code: not applicable

Release applicability

BCS34 and up

Prerequisites

To operate, Power Features Enhancements I has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC MBS Minimum, MDC00007

Description

With Power Features (PF) end users can change features or attributes associated with their Meridian business sets (MBS) equipped with a 2-line by 24-character (or greater) display. With Power Features Enhancements I, end users are provided with the following additional PF capabilities:

- PF key assignment for both administrator and end user
- security lock for both administrator and end user
- Call Pickup (CPU) for both administrator and end user
- Call Forwarding (CFW) for end user
- Message Waiting (MWT) for both administrator and end user.

Power Features Enhancements I also modifies name programming activation for administrators, as well as preserving PF control data through future software upgrades. In addition, Power Features Enhancements I enhances French translations menus.

Operation

Background

The terminal management environment (TME) provides end users with the capability to access independent packages or applications. These applications add functions for setting operation and control of available services. Power Features is one of these applications. Refer to “Interactive Display Menu on MBS Sets" for information on the TME.

Power Features Enhancements I (continued)

Power Features lets end users access some of the functions of the Service Order System (SERVORD) through their MBSs or Meridian functional terminals (MFT). With PF, end users can add, change, delete, customize, or view the data attributes of their sets. These attributes include name programming, key assignments, and certain feature assignments. An administrator can change the data attributes for end users' sets in the same customer group.

Table PFCTRL (Power Feature Control) enables key assignments. Power Features options are enabled by setting field ENABLED to Y and disabled by setting field ENABLED to N. In addition to the PF option assignment capabilities, Power Features Enhancements I also preserves the data associated with the TME command interpreter (CI) process by saving the data in Table PFCTRL for future package upgrades.

Security lock

Power Features Enhancements I allows PF end users to add the security lock attribute to their sets, disabling administrator control of their sets. This prevents an administrator from programming the end user name and set configuration for the set. Security lock can be deleted by Power Features Enhancements I if the end user no longer requires this capability. When security lock is deleted, administrators regain control and can reprogram the end user name and the set configuration. The security lock attribute is also available for administrators for their own sets.

Call Pickup

Power Features Enhancements I allows PF end users to add the CPU feature to their sets. End users can add their sets to an existing CPU group or can set up a new CPU group. When an end user sets up a new CPU group, only that end user is in the group. To include others in that group, individual end users must add themselves to the group using CPU through PF.

This capability prevents a single end user from setting up an entire CPU group of end users. An administrator can add, change, or delete the CPU feature for a 500/2500 set using the administrator control menu. The interface is the same for both end user and administrator, except that there is no prompt for selecting a blank key on the set for the administrator, and the administrator cannot change the CPU key list.

Call Forwarding

Power Features Enhancements I allows PF end users to assign option CFU or CFI to their sets. In addition, end users can manipulate (view, activate,

deactivate, or program) the following CFW options that had been previously assigned as code access:

- Call Forward All Calls
- CFB
- CFNA
- CFK.

Telephone operating company personnel must assign these CFW options to end users' sets before the PF end users can manipulate them. If these options exist as code access, they are copied to key access when the PF key is added. If CFW is not assigned as code access, the key list is defaulted to the primary directory number (PDN).

End users control whether calls are forwarded internally (CFI) or externally (CFU). The default entry is CFI. However, telephone operating company personnel can replace CFI with CFU using a specific access feature group (AFG). Without an AFG, Table PFCTRL is used. This use of this table applies to all customer groups in the switching office. (Refer to “Access Feature Grouping" for details.)

Message Waiting

Power Features Enhancements I allows PF end users to add the MWT feature to their sets. It also allows administrators to assign the MWT feature to 500/2500 sets in the same customer group using the administrator control menu. Options CAR and CRX associated with the MWT capability cannot be accessed by PF. Therefore, defaults are assigned. The default is options CAR, CRX, and CRRCFW enabled.

Administrator PF assignment

Power Features Enhancements I allows an administrator to assign PF as code access to an end user set that does not have PF assigned. This action is chosen from the administrator control menu. Once PF is assigned as code access, it cannot be deleted by the administrator.

End user PF key assignment

Power Features Enhancements I allows PF end users with code access to assign a PF key to their sets that do not have PF assigned on a key. End users also can delete PF from a previously assigned key, provided the end user accesses PF using code access. A menu on the end user set allows end users to add PF to or delete PF from a key and confirm the action.

Power Features Enhancements I (continued)

Name programming

Power Features Enhancements I changes the way an administrator programs an end user name. An administrator can no longer change or delete an end user name from the PF main menu prompt, but can only perform these actions from the administrator control menu. Once the administrator control menu is entered, the administrator selects the name programming option from the menu, and the end user name is displayed. The administrator can then change or delete the name.

Command interpreter data preservation

Power Features Enhancements I preserves the data across each batch change supplement (BCS). Telephone operating company personnel control the features available to a PF end user with the TME CI. Each time a new BCS is applied, however, telephone operating company must reenter the associated data. Power Features Enhancements I enables Table PFCTRL to control the same data as the TME CI. Since a regular table control interface handles the PF control data, the data is preserved across each BCS.

Power Features Enhancements I replaces the TME CI commands with direct table control. If Power Features Enhancements I is not included in the software load of the switch, the TME CI commands are available.

Translations table flow

The Power Features Enhancements I translations process is shown in the flowchart in the following figure. The flowchart and data show how Power Features Enhancements I is datafilled.

The Power Features Enhancements I translations tables are described in the following list:

- Table FTRGOPTS (Feature Group Options) enables end users to add CPU to a feature group. The security lock and PF key attributes can also be specified for the feature group under subfield PFAPPL.
- Table PFCTRL (Power Feature Control) enables telephone operating company personnel to select the features that can be chosen by PF end users. (This table is a near-exact replacement for the previously existing PF TME CI command, except that the datafill is maintained throughout BCS upgrades.)

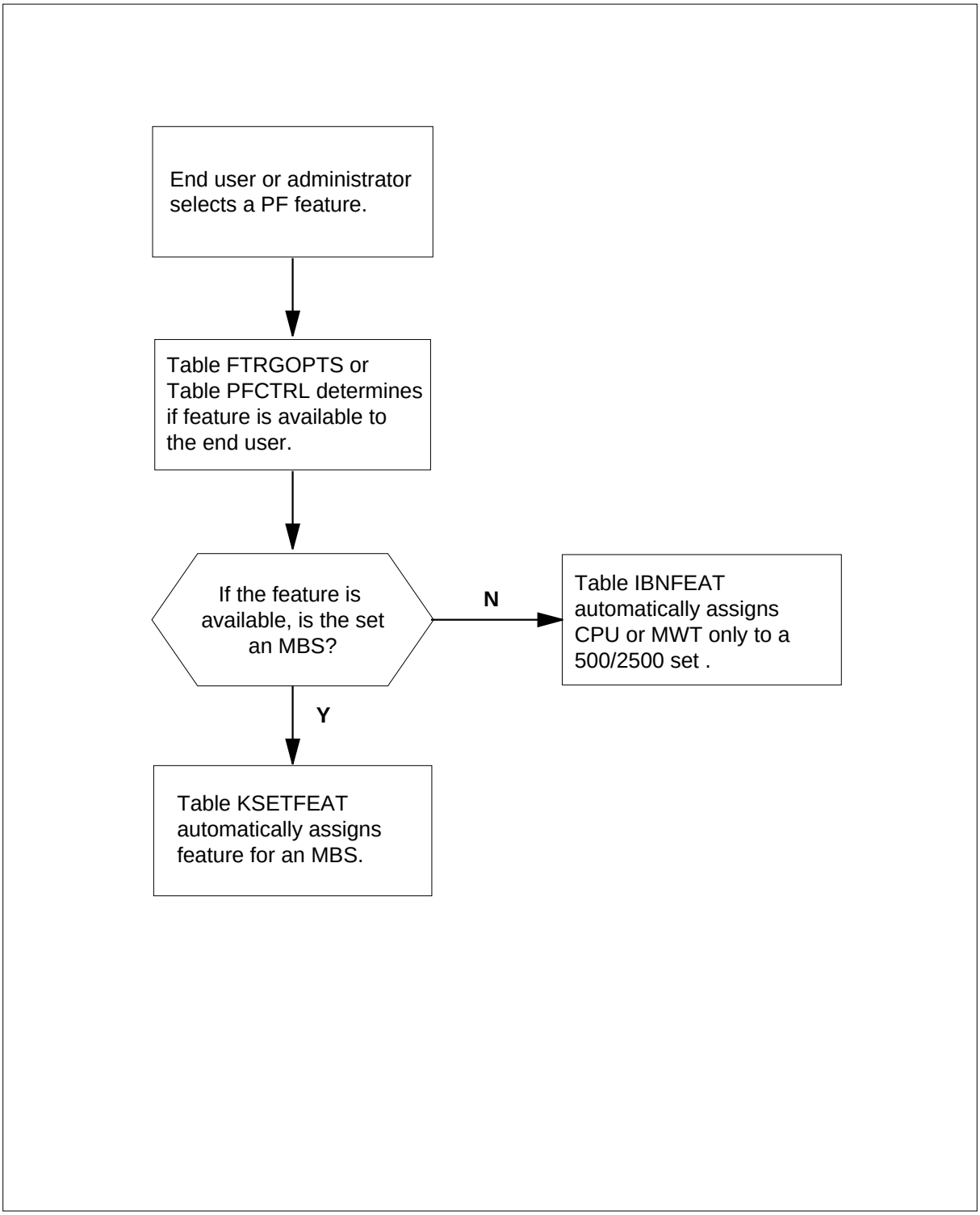
  Note: Power Features Enhancements I automatically accesses Table IBNFEAT instead of Table KSETFEAT if administrators are activating only features Message Waiting and Call Pickup on 500/2500 sets.

Power Features Enhancements I (continued)

The Power Features Enhancements I translation process is shown in the flowchart that follows.

Power Features Enhancements I (continued)

Table flow for Power Features Enhancements I



Power Features Enhancements I (continued)

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

Datafill example for Power Features Enhancements I

Datafill table	Example data
FTRGOPTS	DEFAULT OPTS OPTS (CPU) $
	DEFAULT PF PF (LOCK) $
	DEFAULT PFCNTL PFCNTL (SECLOCK) (PFKEY) $
PFCTRL	PFDEFAULT RAG N
KSETFEAT	HOST 00 1 09 19 10 PF PF (LOCK) $
IBNFEAT	HOST 00 0 09 16 1 CPU CPU HOST 00 0 09 12

Limitations and restrictions

The following limitations and restrictions apply to Power Features Enhancements I:

- Power Features Enhancements I can only be accessed on MBSs with a 2-line by 24-character (or greater) display.
- When an end user adds a MWT key through PF, default options CAR, CRX, and CRRCFW are enabled.
- PF can be deleted from a key only if the end user enters the PF session using code access.
- When an end user adds a CPU key through PF, the default for key list is the primary directory number (PDN); that is, key 1.
- When an end user assigns a CPU key to a new group, the DN associated with that key is the PDN of the end user set. For another end user to become a member of the same group, that end user must change the DN of his or her set to the DN of the first end user set. Only the PDN of the end user set is recognized as having administrative control for the CPU group.
- The end user or administrator has a limited set of power features that can be applied/changed on other end user's sets using the ADMIN CONTROL MENU.
- When an end user adds a CPU key through PF as code access, all the code access options are copied to the CPU key. When an end user deletes a CPU key through PF, CPU is assigned as code access with all options unchanged.
- PF does not support the group number option on CPU keys. End users must specify a DN.

Power Features Enhancements I (continued)

- If CFW is assigned as code access and then added to a PF key, all options assigned to CFW are assigned to the CFW key. If CFW is not assigned as code access, then the key list defaults to the primary directory number (PDN). If the PF end user requires a separate CFW list location and PDN, telephone operating company personnel must assign the appropriate key list.
- When an end user deletes a CFW key through PF, the key is reassigned as code access with Call Forward All Calls deactivated.
- When a CFW separate key list is in the switch, CFW is not available through PF, and the option does not display in the menu.

Interactions

Power Features Enhancements I has no functionality interactions.

Activation/deactivation by the end user

Figures depicting adding, deleting, and changing PF using Power Features Enhancements I are shown in this section.

Security lock

The following figure shows how an administrator locks and unlocks an MBS with display. (The security lock attribute can be entered by dialing the digits 73 for the letters SE from the PF main menu prompt.)

Locking and unlocking a set

`SECURITY LOCK` `*=NEXT, 1=SELECT, #=BACK`	Administrator presses 1 to select the privileged access.
`SET IS UNLOCKED` `1=LOCK, 0=EXIT`	Administrator presses 1 to lock the set.
`SET IS LOCKED` `1=UNLOCK, 0=EXIT`	Administrator presses 1 to unlock the set.
`SET IS UNLOCKED` `1=LOCK, 0=EXIT`	Administrator presses 1 to relock the set.

Power Features Enhancements I (continued)

Call Pickup

The following figures show how to activate CPU using the Power Features Enhancements I feature. For all CPU activations (adding and deleting a CPU key, changing a CPU keylist, and viewing CPU group members), the end user (or administrator) can enter CPU either by dialing the digits 742 for the letters PIC from the PF main menu prompt or by pressing the CPU key.

The following figure shows how an end user adds a CPU key to an MBS display set. (This display would be identical for an administrator, except that no prompt for selecting a blank key would be displayed.)

Power Features Enhancements I (continued)

Adding a CPU key

`CALL PICKUP` `*=NEXT, 1=SELECT, #=BACK`	End user presses 1 to select the CPU feature.
`CALL PICKUP OPTIONS` `1=ADD, 0=EXIT`	End user presses 1 to add a CPU key to the set.
`SELECT BLANK KEY` `0=EXIT`	End user mistakenly presses a nonblank key.
`MUST CHOOSE BLANK KEY` `0=EXIT`	End user presses a blank key.
`SELECT TYPE OF GROUP` `1=NEW GROUP, 2=EXISTING`	End user presses 2 to join an existing group.
`ENTER A NUMBER OF MEMBER` `IN AN EXISTING CPU GROUP`	End user mistakenly enters a 5-digit number.
`55512` `*=<---  HOLD=OK`	End user presses HOLD.
MINIMUM LENGTH IS 7 1=REENTER, 0=EXIT	End user presses 1 to correct the entry.
`5551234` `*=<---  HOLD=OK`	End user enters a 7-digit number and presses HOLD.
`5551234` `1=CHANGE, 2=ACCEPT, 0=EXIT`	End user presses 2.
`KEY ADDED` `1=CONTINUE, 0=EXIT`	End user is notified if the procedure succeeded.
or	
`5551234 NOT IN CPU GROUP` `1=REENTER, 0=CONTINUE`	End user is notified if the procedure succeeded.
or	
`INVALID NUMBER` `1=REENTER, 2=CONTINUE`	End user is notified if the procedure succeeded.

Power Features Enhancements I (continued)

The following figure shows how an end user adds a CPU key to an MBS display set when CPU is already assigned as code access.

Adding a CPU key with CPU previously assigned as code access

`CALL PICKUP` `*=NEXT, 1=SELECT, #=BACK`	End user presses 1 to select the CPU feature.
`CALL PICKUP OPTIONS` `1=ADD, 2=VIEW GROUP`	End user presses 1 to add a CPU key to the set.
`SELECT BLANK KEY` `0=EXIT`	End user mistakenly presses a nonblank key.
`MUST CHOOSE BLANK KEY` `0=EXIT`	End user presses a blank key.
`ADD TO KEY?` `1=YES, 2=NO`	End user presses 1.
`KEY ADDED` `1=CONTINUE, 0=EXIT`	End user is notified if the procedure succeeded.

The following figure shows how an end user deletes a CPU key from an MBS display set.

Power Features Enhancements I (continued)

Deleting a CPU key

`CALL PICKUP` `*=NEXT, 1=SELECT, #=BACK`	End user presses 1 to select the CPU feature.
`CALL PICKUP OPTIONS` `1=DELETE, 2=CHANGE, 7=MORE`	End user presses 1 to delete the CPU key from the set.
`DELETE KEY?` `1=YES, 2=NO`	End user presses 1 to confirm the action.
`KEY DELETED` `1=CONTINUE, 0=EXIT`	End user is notified if the procedure succeeded.

The following figure shows how an end user changes a CPU key on an MBS display set.

Power Features Enhancements I (continued)

Changing a CPU key

`CALL PICKUP` `*=NEXT, 1=SELECT, #=BACK`	End user presses 1 to select the CPU feature.
`CALL PICKUP OPTIONS` `1=DELETE, 2=CHANGE, 7=MORE`	End user presses 2 to change the CPU key on the set.
`SELECT TYPE OF CHANGE` `1=GROUP, 2=KEY LIST`	End user presses 1 to change the CPU group. ***Note:*** This prompt does not display for administrators changing 500/2500 sets.
`SELECT TYPE OF GROUP` `1=NEW GROUP, 2=EXISTING`	End user presses 2 to change the CPU key of an existing group.
`ENTER A NUMBER OF MEMBER` `IN AN EXISTING CPU GROUP`	End user begins entering a 7-digit number.
`5551234` `*=<---  HOLD=OK`	End user finishes entering a 7-digit number and presses HOLD.
`5551234` `1=CHANGE, 2=ACCEPT, 0=EXIT`	End user presses 2.
`KEY CHANGED` `1=CONTINUE, 0=EXIT`	End user is notified if the procedure succeeded.

The following figure shows how an end user changes the CPU key list on an MBS display set.

Power Features Enhancements I (continued)

Changing the CPU key list

`CALL PICKUP` `*=NEXT, 1=SELECT, #=BACK`	End user presses 1 to select the CPU feature.
`CALL PICKUP OPTIONS` `1=DELETE, 2=CHANGE, 7=MORE`	End user presses 2 to change the CPU feature.
`SELECT TYPE OF CHANGE` `1=GROUP, 2=KEY LIST`	End user presses 2 to change the CPU key list.
`SELECT KEY LIST` `1=ALL LINES, 2=MAIN LINE`	End user presses 1 to add ALL LINES keys to the CPU key list.
`CHANGE KEY?` `1=YES, 2=NO`	End user presses 1 to confirm the action.
`KEY CHANGED` `1=CONTINUE, 0=EXIT`	End user is notified if the procedure succeeded.

The following figure shows how an end user views members of a CPU group on an MBS display set.

Viewing CPU group members

`CALL PICKUP` `*=NEXT, 1=SELECT, #=BACK`	End user presses 1 to select the CPU feature.
`CALL PICKUP OPTIONS` `1=DELETE, 2=CHANGE, 7=MORE`	End user presses 7 to view more options.
`CALL PICKUP OPTIONS` `1=VIEW GROUP, 7=MORE`	End user presses 1 to view the members of the CPU group.
`5551234` `*=NEXT, #=BACK, 0=EXIT`	End user presses * or # key to cycle forward or backward through the DNs in the CPU group.

Power Features Enhancements I (continued)

Call Forwarding

The following figures show how to activate CFW using Power Features Enhancements I. For all CFW activations (adding and deleting a CFW key, and programming CFB, CFNA, CFK, and Call Forward All Calls), the end user or administrator can enter CFW either by dialing the digits 36 for the letters FO from the PF main menu prompt or by pressing the CFW key.

The following figure shows how an end user adds a CFW key to an MBS display set.

Adding a CFW key

`CALL FORWARD` `*=NEXT, 1=SELECT, #=BACK`	End user presses 1 to select the CFW feature.
`CALL FORWARD OPTIONS` `1=ADD, 0=EXIT`	End user presses 1 to add a CFW key to the set.
`SELECT BLANK KEY` `0=EXIT`	End user mistakenly presses a nonblank key.
`MUST CHOOSE BLANK KEY` `0=EXIT`	End user presses a blank key.
`ADD TO KEY?` `1=YES, 2=NO`	End user presses 1 to confirm the action.
`KEY ADDED` `1=CONTINUE, 0=EXIT`	End user is notified if the procedure succeeded.

The following figure shows how an end user deletes a CFW key from an MBS display set. When CFW is deleted from a key, it is reassigned as code access with Call Forward All Calls inactivate. Call Forwarding Busy and Call Forwarding Don't Answer (CFD) remain unchanged.

Power Features Enhancements I (continued)

Deleting a CFW key

`CALL FORWARD` `*=NEXT, 1=SELECT, #=BACK`	End user presses 1 to select the CFW feature.
`CALL FORWARD OPTIONS` `1=DELETE, 2=CHANGE, 0=EXIT`	End user presses 1 to delete the CFW key from the set.
`DELETE KEY?` `1=YES, 2=NO`	End user presses 1 to confirm the action.
`KEY DELETED, CFW INACTIVE` `1=CONTINUE, 0=EXIT`	End user is notified if the procedure succeeded.

The following figure shows how an end user programs CFB on an MFT set. (Only the forwarding options actually assigned to the end user's set are displayed.)

Power Features Enhancements I (continued)

Programming CFB

```
CALL FORWARD
NEXT SELECT        BACK   EXIT
```

End user presses SELECT softkey.

```
CALL FORWARD OPTIONS
     DELETE CHANGE       EXIT
```

End user presses CHANGE softkey.

```
SELECT FORWARD TYPE
ALLCALLS BUSY  NOANSWER  EXIT
```

End user presses BUSY softkey.

Note: If CFB is not assigned, the BUSY option does not display.

```
BUSY PROGRAMMING
INTERNAL   EXTERNAL      EXIT
```

End user presses INTERNAL or EXTERNAL softkey.

Note: This prompt only displays if the end user has both internal and external CFB assigned.

```
BUSY 27383
     DEACT  CHANGE       EXIT
```

End user presses DEACT softkey.

Note: If CFB type is fixed, the CHANGE option does not display. If CFB type is default, neither the CHANGE option nor the DEACT or ACTIVATE option displays. The CFB type must be programmable for both options to display. The end user enters a DN, and the `ENTER FORWARD BUSY #` prompt displays if no number has been programmed.

or

```
BUSY 27383 INACTIVE
ACTIVATE   CHANGE        EXIT
```

End user presses CHANGE softkey.

```
ENTER FORWARD BUSY
 <---   OK
```

End user enters a 1- to 14-digit number.

```
455
<---   OK
```

End user presses OK softkey.

```
BUSY 455 ACTIVE
     DEACT  CHANGE       EXIT
```

End user presses EXIT softkey.

Power Features Enhancements I (continued)

If the end user selects softkey option BUSY or NOANSWER (as shown in the third box in the preceding figure), he or she must program the internal or external CFW number, as shown in the fourth box. Once selected, the currently programmed number is displayed along with its status (active or inactive), as shown in box 5 or 6. These options enable the end user to activate or deactivate the forwarding and to change the forwarding number. (Selecting softkey option ALLCALLS in the third box on a per-key basis bypasses the `BUSY PROGRAMMING` prompt in the fourth box.) The following figure shows how an end user programs CFNA on an MFT set.

Programming CFNA

```
CALL FORWARD
NEXT  SELECT       BACK  EXIT
```

End user presses SELECT softkey.

```
CALL FORWARD OPTIONS
      DELETE CHANGE       EXIT
```

End user presses CHANGE softkey.

```
SELECT FORWARD TYPE
ALLCALLS BUSY NOANSWER   EXIT
```

End user presses NOANSWER softkey.

Note: If CFNA is not assigned, the NOANSWER option does not display.

```
NOANSWER PROGRAMMING
INTERNAL  EXTERNAL       EXIT
```

End user presses INTERNAL or EXTERNAL softkey.

Note: If the end user cannot program different numbers for internally or externally originated calls, this prompt does not display. Option IECFD must be assigned in order for this prompt to display.

```
NOANSWER 55555 ACTIVE
       DEACT CHANGE       EXIT
```

End user presses DEACT sofkey.

```
NOANSWER 55555 INACTIVE
ACTIVATE    CHANGE       EXIT
```

End user presses EXIT softkey.

The following figure shows how an end user programs CFK on an MFT set.

Power Features Enhancements I (continued)

Programming CFK

```
CALL FORWARD
NEXT  SELECT        BACK   EXIT
```

End user presses SELECT softkey.

```
CALL FORWARD OPTIONS
      DELETE CHANGE        EXIT
```

End user presses CHANGE softkey.

```
FORWARD TYPE OR LINE KEY
ALLCALLS     BUSY NOANSWER EXIT
```

End user selects a line key.

Note: CFK is assigned. The ALLCALLS option refers to each line in the CFK key list. Selecting a line key programs CFK for the selected DN only. (If CFB or CFNA is not assigned, options BUSY or NOANSWER do not display.)

```
ALLCALLS 55555 ACTIVE
       DEACT  CHANGE       EXIT
```

End user presses DEACT softkey.

```
ALLCALLS 55555 INACTIVE
ACTIVATE     CHANGE        EXIT
```

End user presses CHANGE softkey.

```
ENTER FORWARD ALLCALLS #
<---   OK
```

End user mistakenly presses OK softkey before entering any digits.

```
INVALID NUMBER
REENTER CONTINUE
```

End user presses REENTER softkey.

```
ENTER FORWARD ALLCALLS #
<---   OK
```

End user enters a number.

```
123456789
<---   OK
```

End user presses OK softkey.

```
ALLCALLS  123456789 ACTIVE
       DEACT  CHANGE        EXIT
```

End user presses EXIT softkey.

Power Features Enhancements I (continued)

The following figure shows how an end user programs Call Forward All Calls on an MFT set.

Programming Call Forward All Calls

```
CALL FORWARD
NEXT  SELECT        BACK  EXIT
```

End user presses SELECT softkey.

```
CALL FORWARD OPTIONS
      DELETE CHANGE       EXIT
```

End user presses CHANGE softkey.

```
SELECT FORWARD TYPE
ALLCALLS    BUSY NOANSWER EXIT
```

End user presses ALLCALLS softkey.

Note: If CFB or CFNA is not assigned, options BUSY or NOANSWER do not display.

```
ALLCALLS 655555 ACTIVE
      DEACT CHANGE        EXIT
```

End user presses DEACT softkey.

```
ALLCALLS 655555 INACTIVE
ACTIVATE    CHANGE        EXIT
```

End user presses CHANGE softkey.

```
ENTER FORWARD ALLCALLS #
<---   OK
```

End user enters a number.

```
321
<---   OK
```

End user presses OK softkey.

```
ALLCALLS 321 ACTIVE
      DEACT  CHANGE        EXIT
```

End user presses EXIT softkey.

Power Features Enhancements I (continued)

Message Waiting

The following figures show how to activate MWT using the Power Features Enhancements I feature. For all MWT activations (adding and deleting a MWT key), the end user (or administrator) can enter MWT by dialing the digits 63 for the letters ME from the PF main menu prompt or by pressing the MWT key.

The following figure shows how an end user adds an MWT key to an MBS display set.

Add a MWT key

`MESSAGE WAITING` `*=NEXT, 1=SELECT, #=BACK`	End user presses 1 to select the MWT feature.
`MESSAGE WAITING OPTIONS` `1=ADD, 0=EXIT`	End user presses 1 to add an MWT key to the set.
`SELECT BLANK KEY` `0=EXIT`	End user mistakenly presses a nonblank key.
`MUST CHOOSE BLANK KEY` `0=EXIT`	End user presses a blank key.
`ADD TO KEY?` `1=YES, 2=NO`	End user presses 1 to confirm the action.
`KEY ADDED` `1=CONTINUE, 0=EXIT`	End user is notified if the procedure succeeded.

The following figure shows how an end user deletes an MWT key from an MBS display set.

Power Features Enhancements I (continued)

Deleting a MWT key

`MESSAGE WAITING` `*=NEXT, 1=SELECT, #=BACK`	End user presses 1 to select the MWT feature.
`MESSAGE WAITING OPTIONS` `1=DELETE, 0=EXIT`	End user presses 1 to delete the MWT key from the set.
`DELETE KEY?` `1=YES, 2=NO`	End user presses 1 to confirm the action.
`KEY DELETED` `1=CONTINUE, 0=EXIT`	End user is notified if the procedure succceeded.

When adding an MWT key, an administrator must first select the MWT option from the administrator control menu. The following figure shows how an administrator adds an MWT key to an MBS display set.

Adding a MWT key (administrator)

`MESSAGE WAITING` `*=NEXT, 1=SELECT, #=BACK`	Administrator presses 1 to select the MWT feature.
`MESSAGE WAITING OPTIONS` `1=ADD, 0=EXIT`	Administrator presses 1 to add the MWT key.
`ADD FEATURE?` `1=YES, 2=NO`	Administrator presses 1 to confirm the action.
`FEATURE ADDED` `1=CONTINUE, 0=EXIT`	Administrator is notified if the procedure succeeded.

Power Features Enhancements I (continued)

Administrator PF code access assignment

When assigning PF as code access to an end user's set, an administrator must first select the option from the administrator control menu. The administrator can enter PF code access assignment by dialing the digits 76 for the letters PO from the administrator control menu. An administrator cannot delete PF from an end user's set.

The following figure shows how an administrator adds PF code access to an MBS display set.

Adding PF code access

`POWER FEATURE ASSIGNMENT` `*=NEXT, 1=SELECT, #=BACK`	Administrator presses 1 to select the PF assignment option.
`PF CODE ACCESS OPTIONS` `1=ADD, 0=EXIT`	Administrator presses 1 to add the PF code access option to the end user's set.
`ADD FEATURE?` `1=YES, 2=NO`	Administrator presses 1 to confirm the action.
`FEATURE ADDED` `1=CONTINUE, 0=EXIT`	Administrator is notified if the procedure succeeded.

End user PF key assignment

The following figures show how end users with the PF code access privilege assign a PF key to their sets. End users can access the PF key attribute by dialing the digits 76 for the letters PO from the PF main menu prompt.

The following figure shows how an end user adds a PF key to an MBS display set.

Power Features Enhancements I (continued)

Adding a PF key

`POWER FEATURE KEY` `*=NEXT, 1=SELECT, #=BACK`	End user presses 1 to select the PF key option.
`POWER FEATURE KEY OPTIONS` `1=ADD, 0=EXIT`	End user presses 1 to add PF to a key.
`SELECT BLANK KEY` `0=EXIT`	End user mistakenly presses a nonblank key.
`MUST CHOOSE BLANK KEY` `0=EXIT`	End user presses a blank key.
`ADD TO KEY?` `1=YES, 2=NO`	End user presses 1 to confirm the action.
`KEY ADDED` `1=CONTINUE, 0=EXIT`	End user is notified if the procedure succeeded.

The following figure shows how an end user deletes a PF key from an MBS display set.

Power Features Enhancements I (continued)

Deleting a PF key

`POWER FEATURE KEY` `*=NEXT, 1=SELECT, #=BACK`	End user presses 1 to select the PF key option.
`POWER FEATURE KEY OPTIONS` `1=DELETE, 0=EXIT`	End user presses 1 to delete the PF key from the set.
`DELETE KEY?` `1=YES, 0=EXIT`	End user presses 1 to confirm the action.
`KEY DELETED` `1=CONTINUE, 0=EXIT`	End user is notified if the procedure succeeded.
or	

`MUST BE DELETED THROUGH`
`CODE ACCESS`
`1=CONTINUE`
	End user is notified that he or she failed to enter PF using code access.

Administrator control interaction with Table PFCTRL

Options from the administrator control menu are only enabled if the corresponding end user option is enabled. For example, if CPU is disabled, it cannot be selected from the menu since it is not displayed.

To ensure that an option is available from the administrator control menu, both the option itself and the administrator control option must be enabled.

Feature availability by access code and peripheral type

The following table lists the access codes for activating a PF feature or attribute from the PF main menu prompt and administrator control menu.

PF feature or attribute availability by English name codes (Sheet 1 of 2)

PF feature or attribute	PF main menu prompt access code	Administrator control menu access code
Call Pickup	742 or PIC	74 or PI
Message Waiting	63 or ME	63 or ME
PF assignment	- - - - - -	76 or PO
PF key	76 or PO	- - - - - -

Power Features Enhancements I (continued)

PF feature or attribute availability by English name codes (Sheet 2 of 2)

PF feature or attribute	PF main menu prompt access code	Administrator control menu access code
Security lock	73 or SE	- - - - - -
Call forwarding	36 or FO	- - - - - -

The following table identifies the PF features by peripheral type (that is, whether ISDN [integrated services digital network] applies to the PF feature or attribute.)

PF feature or attribute availability by peripheral type (Sheet 1 of 2)

PF feature or attribute	Non-ISDN	ISDN
Call Pickup		
End user	Yes	No
Administrator	N/A	N/A
Message Waiting		
End user	Yes	Yes
Administrator	Yes	No
PF assignment		
End user	N/A	N/A
Administrator	Yes	No
PF key		
End user	N/A	N/A
Administrator	Yes	Add only
Security lock		
End user	Yes	No
Administrator	N/A	N/A
Call forwarding		

Power Features Enhancements I (continued)

PF feature or attribute availability by peripheral type (Sheet 2 of 2)

PF feature or attribute	Non-ISDN	ISDN
End user	Yes	Yes
Administrator	Yes	No

Billing

Power Features Enhancements I does not affect billing.

Station Message Detail Recording

Power Features Enhancements I does not affect Station Message Detail Recording.

Datafilling office parameters

Power Features Enhancements I does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement Power Features Enhancements I. The tables are listed in the order in which they are to be datafilled.

Note: Before assigning option PF to a new customer group, make sure that the customer group tuple exists in table CUSTNTWK.

Datafill tables required for Power Features Enhancements I

Table	Purpose of table
FTRGOPTS	Feature Group Options. This table enables end users to add CPU to a feature group.
PFCTRL	Power Feature Control. This table enables telephone operating company personnel to select the features that can be chosen by PF end users.
KSETFEAT (Note)	Business Set and Data-Unit Feature. This table enables end users to add CPU to an MBS or MFT set that is in a feature group.
IBNFEAT (Note)	IBN Line Feature. This table lists line features associated with 500/2500 sets.
Note: This table is datafilled through SERVORD; therefore, no datafill procedure is provided.	

Power Features Enhancements I (continued)

Datafilling table FTRGOPTS

Table FTRGOPTS (Feature Group Options) enables end users to add CPU to a feature group. Security lock and PF Key can also be specified for the feature group under subfield PFAPPL.

The following table shows the datafill specific to Power Features Enhancements I for table FTRGOPTS. Only those fields that apply directly to Power Features Enhancements I are shown. For a description of the other fields, refer to the data schema section of this document.

The first datafill procedure shows adding CPU to a feature group. The second datafill procedure shows adding security lock as a PF option. The third datafill procedure shows adding security lock or PF Key as a PF application.

Datafilling table FTRGOPTS (adding CPU to a feature group)

Field	Subfield or refinement	Entry	Explanation and action
FTRGRP		feature group name	Feature Group Name. This field specifies the name of the feature group to which the option is to be assigned. Enter the feature group name.
OPTION		OPTS	Option. This field specifies the option. Enter OPTS.
OPTVAR		see subfields	Option Variable Area. This field consists of subfields OPTION and OPTLIST.
	OPTION	OPTS	Option. This subfield specifies the option. Enter OPTS.
	OPTLIST	CPU	Option List. This subfield specifies the option list. Enter CPU.

Datafill example for table FTRGOPTS (adding CPU to a feature group)

The following example shows sample datafill for table FTRGOPTS (adding CPU to a feature group).

Power Features Enhancements I (continued)

MAP display example for table FTRGOPTS (adding CPU to a feature group)

```
FTRGRP OPTION  OPTVAR
_____________________________________________________
  DEFAULT  OPTS        OPTS    ( CPU) $
```

Datafilling table FTRGOPTS (adding security lock as a PF option)

Field	Subfield or refinement	Entry	Explanation and action
FTRGRP		feature group name	Feature Group Name. This field specifies the name of the feature group to which the option is to be assigned. Enter the feature group name.
OPTION		PF	Option. This field specifies the option. Enter PF.
OPTVAR		see subfields	Option Variable Area. This field consists of subfields OPTION and PFOPT.
	OPTION	PF	Option. This subfield specifies the option. Enter PF.
	PFOPT	LOCK	Power Features Options. This subfield specifies the PF option. To add security lock as a PF option, enter LOCK.

Datafill example for table FTRGOPTS (adding security lock as a PF option)

The following example shows sample datafill for table FTRGOPTS (adding security lock as a PF option).

Power Features Enhancements I (continued)

MAP display example for table FTRGOPTS (adding security lock as a PF option)

```
   FTRGRP   OPTION  OPTVAR
_____________________________________________________
   DEFAULT  PF      PF  ( LOCK) $
```

Datafilling table FTRGOPTS (adding security lock or PF key as a PF application)

Field	Subfield or refinement	Entry	Explanation and action
FTRGRP		feature group name	Feature Group Name. This field specifies the name of the feature group to which the option is to be assigned. Enter the feature group name.
OPTION		PFCNTL	Option. This field specifies the option. Enter PFCNTL.
OPTVAR		see subfields	Option Variable Area. This field consists of subfields OPTION and PFAPPL.
	OPTION	PFCNTL	Option. This subfield specifies the option. Enter PFCNTL.
	PFAPPL	SECLOCK or PFKEY	Power Features Application. This subfield specifies the PF application. Enter SECLOCK to add the security lock application. Enter PFKEY to add the PF key application.

Datafill example for table FTRGOPTS (adding security lock or PF key as a PF application)

The following example shows sample datafill for table FTRGOPTS (adding security lock or PF key as a PF application).

MAP display example for table FTRGOPTS (adding security lock or PF key as a PF application)

```
FTRGRP  OPTION  OPTVAR
_____________________________________________________
   DEFAULT  PFCNTL  PFCNTL ( SECLOCK) ( PFKEY) $
```

Datafilling table PFCTRL

Table PFCTRL (Power Feature Control) enables telephone operating company personnel to select the features that can be chosen by PF end users. Only those fields that directly apply to this feature are shown.

The following table shows the datafill specific to Power Features Enhancements I for table PFCTRL. Only those fields that apply directly to Power Features Enhancements I are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table PFCTRL

Field	Subfield or refinement	Entry	Explanation and action
CUSTGRP		customer group name	Customer Group. This field specifies the name of the customer group. Enter the appropriate customer group name. (For this feature, PFDEFAULT is the default value.)
PROPT		abbreviation corresponding to the PF feature name	Power Features Option. This field specifies the feature to be assigned as a PF feature. Enter the abbreviation corresponding to the PF feature name. ***Note:*** See the following table for a list of feature names that can be assigned as PF features in field PFOPT.
ENABLED		Y or N	Enabled. This field specifies whether the feature assigned in field PFOPT is enabled or disabled. Enter Y if the feature is enabled, or enter N if the feature is disabled.

Assignable PF feature and attribute names (Sheet 1 of 2)

Abbreviation	Feature or attribute name
AAB	Auto Answer Back
ADMIN_CTRL	Administrator Control
AUTODISP	Auto Display
AUD	Autodial
BLF	Busy Lamp Field
CADDON	Configure Add On

Power Features Enhancements I (continued)

Assignable PF feature and attribute names (Sheet 2 of 2)

Abbreviation	Feature or attribute name
CCV	Call Covering
CFI	Call Forwarding Intragroup
CFU	Call Forwarding Universal
CPHONE	Configure Phone
CPU	Call Pickup
CWT	Call Waiting
DCPK	Directed Call Park
DRING	Distinctive Ringing
EMW	Executive Message Waiting
INSPECT	Inspect
LANG	Choose Language
LVM	Leave Message
MIPHONE	MiPhone
MSB	Make Set Busy
MWT	Message Waiting
NAME	Name Programming
PF	Power Features
PRK	Call Park
PSWD	Power Features Password
QTD	Query Time and Date
RAG	Ring Again
SLOCK	Security Lock
3WC	Three-Way Calling

Datafill example for table PFCTRL

The following example shows sample datafill for table PFCTRL.

MAP display example for table PFCTRL

```
CUSTGRP      PFOPT      ENABLED      AUDIT
_____________________________________________
PFDEFAULT     RAG          N           N
```

Translation verification tools

Power Features Enhancements I does not use translation verification tools.

SERVORD

The SERVORD commands ADO (add option), DEO (delete option), and CHF (change feature information for preexisting feature) can be used to add, delete, and change CPU for a set in a feature group. In addition, Power Features Enhancements I adds security lock (LOCK) as a PF option. Security lock can also be deleted through SERVORD under the PF tuple. Power Features Enhancements I does not introduce any prompts, commands or line class codes.

Table KSETFEAT

Table KSETFEAT (Business Set and Data Unit Feature) enables end users to add CPU to an MBS or MFT set that is in a feature group. The CPU procedure is exactly the same as for adding CPU to a set not in a feature group. No fields are changed or added in Table KSETFEAT for this modification. In addition, Table KSETFEAT can be used to add security lock as a PF option.

Table IBNFEAT

Table IBNFEAT (IBN Line Feature) lists line features associated with 500/2500 sets.

SERVORD limitations and restrictions

Power Features Enhancements I has no SERVORD limitations and restrictions.

Power Features Enhancements I (continued)

SERVORD prompts

The following table shows the SERVORD prompts used to delete, add, or change Power Features Enhancements I option CPU in a PF tuple.

SERVORD prompts for Power Features Enhancements I

Prompt	Valid input	Explanation
OPTKEY	1-69 for MBS	Specifies the number of the key to which the PF option is to be assigned. Enter a value from 1 to 69 for MBS.
OPTION	CPU	Specifies the PF option. Enter CPU.
CPULEN	LEN or LTID	Specifies the line equipment number (LEN) or logical terminal identifier (LTID) of the DN. Enter the LEN or LTID.
KEYLIST	Key number (1-69), list of key numbers, or $	Specifies the key numbers of the DNs to which an option applies. Enter a value from 1 to 69.
Note: Table KSETFEAT or Table IBNFEAT is automatically datafilled when Power Features Enhancements I is assigned using SERVORD.		

The following table shows the SERVORD prompts used to delete or add security lock in Power Features Enhancements I to or from a PF tuple.

SERVORD prompts for Power Features Enhancements I (Sheet 1 of 2)

Prompt	Valid input	Explanation
OPTKEY	1-69 for MBS	Specifies the number of the key to which the PF option is to be assigned. Enter a value from 1 to 69 for MBS.
OPTION	PFOPT	Specifies the option to be modified. Enter PFOPT.
Note: Table KSETFEAT or Table IBNFEAT is automatically datafilled when Power Features Enhancements I is assigned using SERVORD.		

Power Features Enhancements I (continued)

SERVORD prompts for Power Features Enhancements I (Sheet 2 of 2)

Prompt	Valid input	Explanation
PFOPT	USER, LOCK	Specifies the PF suboption. Enter USER to specify the class of end user (general or administrator). Enter LOCK to allow PF end users to remove themselves from administrator control.
USER	GENERAL, ADMIN	Specifies the class of the end user. Enter GENERAL (the default value) to specify that end users can only alter the PF features on their own sets. Enter ADMIN to specify that administrators can alter the PF features on any set in the customer group.
Note: Table KSETFEAT or Table IBNFEAT is automatically datafilled when Power Features Enhancements I is assigned using SERVORD.		

SERVORD example for implementing Power Features Enhancements I

The following SERVORD example shows how Power Features Enhancements I adds CPU to a feature group using the ADO command.

SERVORD example for Power Features Enhancements I adding CPU using ADO command in prompt mode

```
SO:
>ADO
SONUMBER: NOW 92 04 02 PM
 >
DN_OR_LEN:
>14 0 5 26
OPTKEY:
>6
OPTION:
>CPU
CPULEN:
>0 0 1 24
KEYLIST:
>1
KEYLIST:
>$
OPTKEY:
>$
```

Power Features Enhancements I (end)

SERVORD example for Power Features Enhancements I adding CPU using ADO command in no-prompt mode

```
> ADO $ 14 0 5 26 6 CPU  0 0 1 24  1 $ $
```

The following SERVORD example shows how Power Features Enhancements I, adds security lock as a PF option using the ADO command.

SERVORD example for Power Features Enhancements I adding security lock using ADO command in prompt mode

```
SO:
>ADO
SONUMBER: NOW 92 04 02 PM
>
DN_OR_LEN:
>14 0 5 26
OPTKEY:
>7
OPTION:
>PF
PFOPT:
>USER
USER:
>GENERAL
PFOPT:
>LOCK
PFOPT:
>$
OPTKEY:
>$
```

SERVORD example for Power Features Enhancements I adding security lock using ADO command in no-prompt mode

```
> ADO $ 14 0 5 26  7 PF USER GENERAL LOCK $ $
```

Power Features Installer Application

Ordering codes

Functional group ordering code: MDC00013

Functionality ordering code: MDC00019

Release applicability

BCS36 and up

Prerequisites

To operate, Power Features Installer Application has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC MBS Minimum, MDC00007

Description

The Power Features Installer Application feature simplifies the installation procedures for Meridian business sets (MBS) with display that also support power features. This feature adds the query line equipment number (QLEN) capability and the installer feature.

The Power Features Installer Application feature is only available on Meridian functional terminal sets with softkeys and Meridian 5000 series telephones with display. This feature is not available on integrated services digital network (ISDN) terminals.

Operation

Installer feature

After the end user goes off hook and keys in the feature access code defined in Table IBNXLA (Integrated Business Networks Translation), the display in the following figure is given.

Display of enter ID prompt

```
INSTALLER APPLICATION:
ENTER ID
```

Power Features Installer Application (continued)

The end user then keys in his or her ID number that has been datafilled in Table INSTALL (Installers). When the end user is entering his or her ID number, the display in the following figure is given. If an end user wants to backspace and correct any numbers entered, he or she presses the * key. When the end user has finished entering his or her ID number, he or she presses the HOLD key to submit the number.

Display of ID entry

```
_
*=<-- HOLD=OK
```

After the ID number has been submitted, the end user is prompted to enter his or her password that has been previously datafilled in Table INSTALL. After the end user has entered his or her ID number, the display in the following figure is given. When the end user is entering his or her password, the display in figure ``Display of ID entry'' is given. If an end user wants to backspace and correct any numbers entered, he or she should press the * key. When the end user has finished entering his or her ID number, he or she should press the HOLD key to submit the password.

Display of enter password prompt

```
INSTALLER APPLICATION:
ENTER PASSWORD
```

If the installer ID number or password are incorrect, the end user is prompted to reenter the installer ID number. When the end user is reentering his or her ID number, the display in the following figure is given. An end user can enter incorrect information twice before he or she is dropped from the menu.

Display of incorrect information prompt

```
INVALID INFO
REENTER ID
```

Power Features Installer Application (continued)

Once the switch verifies the ID number and password in Table INSTALL, the line equipment number (LEN) of the set the end user is working on is displayed. The end user can scroll through the menu options by pressing the * key. The end user can also begin the guided installation menu option by pressing the 1 key. The end user can also exit the installer application menu by pressing the 0 key. Once the switch verifies the ID number and password, a display of the LEN of the set being installed similar to the one in the following figure is given.

Display of LEN of set being installed

```
INSTL:HOST 02 1 1 02
*=NEXT 1=SELECT 0=EXIT
```

If the end user presses the * key to scroll through the menu items, the following are presented:

- guided installation
- power features
- QLEN
- station ringer test

Guided installation

The guided installation menu option takes the end user through the station ringer test and to power features menu option for assigning features to the set. To select the guided installation option, the end user enters 1 when the display in the following is given. The end user also has the option of entering * to see the next menu option or # to see the previous menu option.

Note: Selecting the guided installation menu is the same as entering 1 (SELECT) from the initial installer application menu.

Display of guided installation menu

```
GUIDED INSTALLATION
*=NEXT 1=SELECT #=BACK
```

Power Features Installer Application (continued)

Power features

The power features menu option takes an end user to the power features menu. At the power features menu, an end user can assign features to a set. To select the power features option, the end user enters 1 when the display in the following figure is given. The end user also has the option of entering * to see the next menu option or # to see the previous menu option.

Display of power features menu

```
POWER FEATURES
*=NEXT 1=SELECT #=BACK
```

QLEN

The QLEN menu option takes an end user to the QLEN menu. For more information on this menu option, see the previous page. To select the query LEN option, the end user enters 1 when the display in the following figure is given. The end user also has the option of entering * to see the next menu option or # to see the previous menu option.

Display of QLEN menu

```
QUERY LEN
*=NEXT 1=SELECT #=BACK
```

Station ringer test

The station ringer test menu item invokes the standard station ringer test. Upon selection, all the lamps for the keys are lit and the display goes blank. To select the station ringer option, the end user enters 1 when the display in the following figure is given. The end user also has the option of entering * to see the next menu option or # to see the previous menu option.

Display station ringer test menu

```
STATION RINGER TEST
*=NEXT 1=SELECT #=BACK
```

Power Features Installer Application (continued)

Dial-by-name installer menu items

All of the installer application menu items can be accessed by entering their dial-by-name access codes. The English language access codes are as follows.

Dial-by-name access codes from the installer menu (English language)

Menu Item	Dial code	Alphabetic code
Guided installation	4	G
Power features	76	PO
QLEN	5	L
Station ringer test	78	ST

Dial-by-name access codes for QLEN (English language)

Menu Item	Dial code	Alphabetic code
General power features	56	LN (QLEN)
Administrator level power features	5	L (QLEN)

The French language access codes are as follows.

Dial-by-name access codes from the installer menu (French language)

Menu Item	Dial code	Alphabetic code
Essai sonn poste	3	E
Interroger NEL	6	N
Installation guidee	4	I
Superfonctions	7	S

Dial-by-name access codes for QLEN (French language)

Menu Item	Dial code	Alphabetic code
General power features	63	NE (NEL interroger)
Administrator level power features	4	I (interroger NEL)

Power Features Installer Application (continued)

QLEN feature

The end user can choose the QLEN option from the installer application menu or the power features menu when the display in the following figure is given.

If the end user chooses the QLEN option from the administrator control menu, the end user can only view the directory numbers (DN) that are in the same customer group as the administrator.

Display of QLEN menu

```
QUERY LEN
*=NEXT 1=SELECT #=BACK
```

If the end user presses 1 to select the QLEN option, a display similar to the display in the following figure is given.

Display of QLEN function

```
HOST 00 0 3 24
1=CONTINUE 0=EXIT
```

If the end user presses 0, the session is ended. If the end user presses 1 (CONTINUE), he or she is returned to the QLEN menu in Figure ``Display of QLEN menu''.

If the end user presses 1 (CONTINUE) and the end user accessed the QLEN by entering the dial-by-name access code, he or she is returned to the menu from which he or she originated the feature.

QLEN and MADN groups

If an end user chooses the QLEN option for a multiple appearance directory number (MADN), a list of the MADN member names is displayed along with the primary DN of the MADN group. This option is available to administrator level users and end users, not to the general power features user. If the end user presses 1 to select the QLEN option, a series of displays similar to the displays in the following figure are given.

Display station ringer test menu

`QUERY LEN` `*=NEXT 1=SELECT #=BACK`	End user presses 1.
`3 GROUP MEMBERS` `1=CONTINUE 0=EXIT`	End user presses 1.
`SUPERVISOR 7224900` `1=VIEW *=NEXT 0=EXIT`	End user presses *.
`ADMIN 7224904` `1=VIEW *=NEXT 0=EXIT`	End user presses 1.
`HOST 01 1 0 16` `*=NEXT #=BACK 0=EXIT`	End user presses *.
`7224910` `1=VIEW *=NEXT 0=EXIT`	End user presses 1.
`HOST 01 1 0 20` `*=NEXT #=BACK 0=EXIT`	End user presses *.
`SUPERVISOR 7224900` `1=VIEW *=NEXT 0=EXIT`	End user presses 0.
`QUERY LEN` `*=NEXT 1=SELECT #=BACK`	

Translations table flow

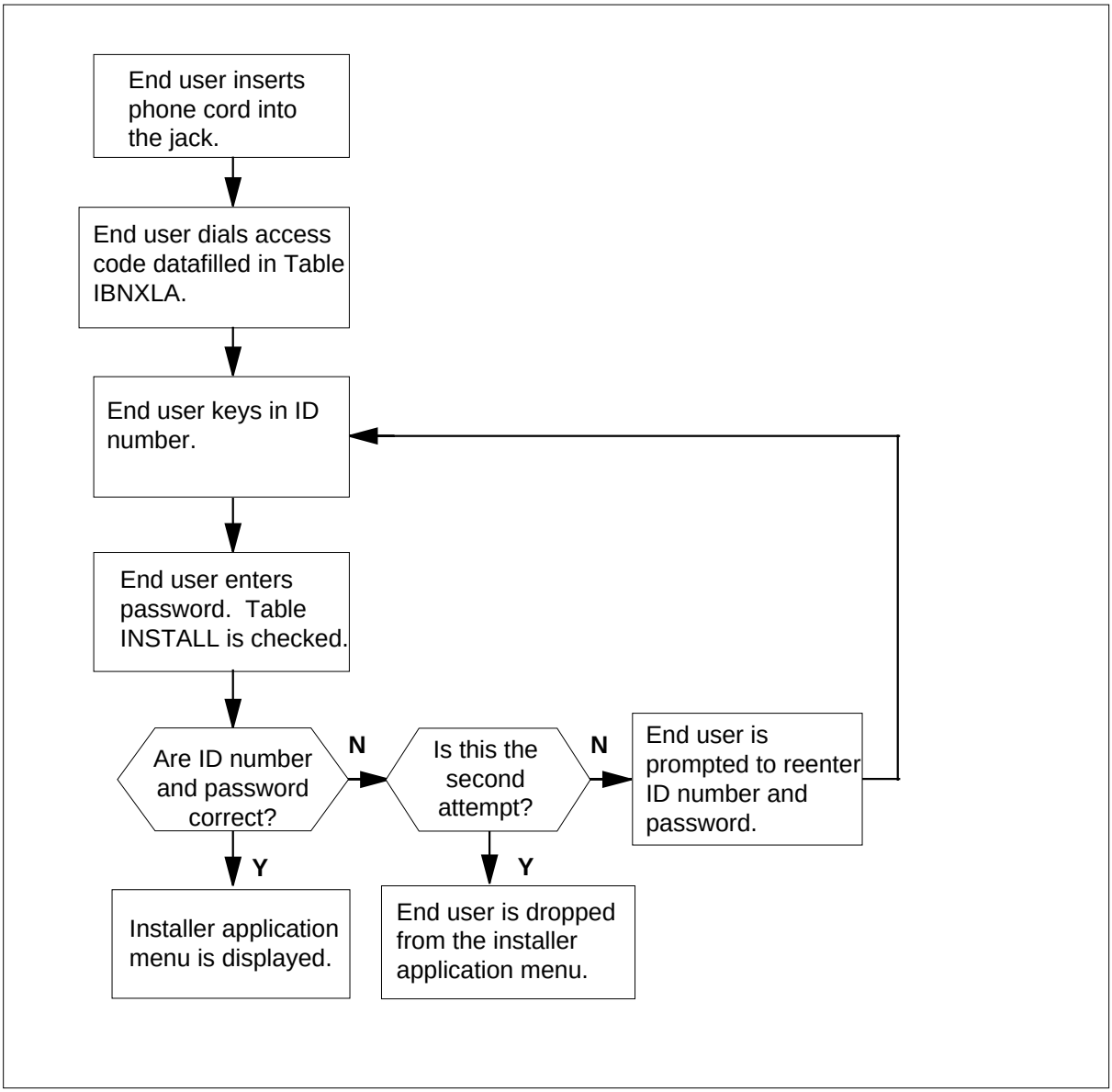
The Power Features Installer Application translations tables are described in the following list:

- Table IBNXLA contains translations data for the digit translation of calls.
- Table INSTALL stores information about installers. If an installer's ID number is not present in Table INSTALL or if an installer's password does not match the password associated with the ID number entered, the end user is dropped from the installer application menu after two attempts.

The Power Features Installer Application translation process is shown in the flowchart that follows.

Power Features Installer Application (continued)

Table flow for Power Features Installer Application



Power Features Installer Application (continued)

The following table lists the datafill content used in the flowchart. In the example, the feature access code is 123, the installer ID is 143, and the installer password is 42598.

Datafill example for Power Features Installer Application

Datafill table	Example data
IBNXLA	NTIXLA 123 FEAT N Y N INSTALL
INSTALL	143 42598 ENGLISH ON_SITE 248 1432 FRENCH CARLING_LAB

Limitations and restrictions

The following limitations and restrictions apply to Power Features Installer Application:

- The Power Features Installer Application feature can only be initiated from an idle DN key using the access code datafilled in Table IBNXLA.
- The Power Features Installer Application feature cannot be initiated from the second leg of a three-way call.
- The Power Features Installer Application feature is only available on Meridian functional terminal sets with softkeys and Meridian 5000 series telephones with display. This feature is not available on ISDN terminals.
- The QLEN function cannot be added to a key on a telephone set. It is an informational feature available through the power features menu or the installer application menu.
- The station ringer test activated through the installer application menu does not generate the run integrity test. The station ringer test verifies that messaging is working on the set.

Interactions

The following paragraphs describe the interactions between Power Features Installer Application and other functionalities.

- If, while the end user is adding features, a call arrives on a DN other than the one on which the end user has dialed the access code, Power Features Installer Application operates similarly as during power features programming. That is, if the end user presses the DN key to receive the call, he or she receives the display like the one in the following figure. The

Power Features Installer Application (continued)

end user can press the 0 key to answer the call or press the 1 key to continue programming the phone.

```
0=USE_PHONE 1=CONTINUE
```

- If the end user presses any DN key other than the one on which he or she has dialed the access code, the display in the figure above is given.
- If the end user is running the station ringer test and a call arrives on a DN other than the one on which the end user has initiated the installer application, the end user is notified of the incoming call by a flashing lamp or a buzz tone. The end user is not able to answer the incoming call until he or she terminates the station ringer test by pressing the HOLD key four times. If the end user terminates the station ringer test and presses the DN to answer the incoming call, the display in the figure above is given.

Activation/deactivation by the end user

The following table explains how to activate and deactivate the Power Features Installer Application feature.

Activation/deactivation of Power Features Installer Application by the end user

At your telephone

1 Plug the telephone set into the jack.

Note: If an end user is modifying an existing telephone set, step 1 can be omitted.

2 Take the handset off hook.

Response:

End user receives dial tone.

3 Key in a * following the installer feature access code.

Response:

End user is prompted to enter his or her installer ID number.

4 Key in the installer ID number.

Response:

After the installer ID number is accepted in the switch, the end user is prompted to enter his or her password.

5 Key in the end user password.

Response:

After the LEN of the set is displayed, the installer application menu is given. The end user now has the option of scrolling through the menu options, choosing the guided installation menu option, or exiting the installer application menu.

6 If the end user wants the guided installation menu option, press 1 (1=SELECT).

Response:

The station ringer test is invoked and the power features menu is displayed.

7 If the end user wants to scroll through the menu options, press * (*=NEXT).

Response:

The menu items are presented in alphabetical order.

8 If the end user wants to exit the installer application menu, press 0 (0=EXIT).

Response:

The end user exits the installer application menu.

Billing

Power Features Installer Application does not affect billing.

Station Message Detail Recording

Power Features Installer Application does not affect Station Message Detail Recording.

Datafilling office parameters

Power Features Installer Application does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement Power Features Installer Application. The tables are listed in the order in which they are to be datafilled.

Note: Before assigning option PF to a new customer group, make sure that the customer group tuple exists in table CUSTNTWK.

Datafill tables required for Power Features Installer Application (Sheet 1 of 2)

Table	Purpose of table
INSTALL	Installers stores information about installers.
IBNXLA	Integrated Business Networks Translations contains translations data for the digit translation of calls.

Power Features Installer Application (continued)

Datafill tables required for Power Features Installer Application (Sheet 2 of 2)

Table	Purpose of table
PFCTRL	Power Features Control controls the availability of features that can be assigned using the power features feature.
FTRGOPTS	Feature Group Options assigns line options to feature groups.

Datafilling table INSTALL

Table INSTALL (Installers) stores information about installers. If an installer's ID number is not present in Table INSTALL or if an installer's password does not match the password associated with the ID number entered, the end user is dropped from the installer application menu after two attempts.

The following table shows the datafill specific to Power Features Installer Application for table INSTALL. Only those fields that apply directly to Power Features Installer Application are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table INSTALL

Field	Subfield or refinement	Entry	Explanation and action
ID		1 to 255	Installer Identification Number. This field identifies an installer. Valid entries are from 1 to 255.
PASSWORD		3- to 6-digits	Password. This field assigns a password to the installer number identified in field ID. Enter a three- to six-digit password.
LANGUAGE		ENGLISH, FRENCH	Language. This field identifies the language in which the end user interacts with the installer menu. Valid entries are ENGLISH and FRENCH.
ADMININFO		1- to 32-alphanumeric characters	Administrative Information. This field contains administrative information an operating company wants to store with the installer ID number. Valid entries are from 1 to 32 alphanumeric characters.

Datafill example for table INSTALL

The following example shows sample datafill for table INSTALL.

MAP display example for table INSTALL

```
  ID PASSWORD LANGUAGE                        ADMININFO
 ------------------------------------------------------------
 143    42598  ENGLISH                            ON_SITE
 248     1432   FRENCH                        CARLING_LAB
```

Datafilling table IBNXLA

The following table shows the datafill specific to Power Features Installer Application for table IBNXLA. Only those fields that apply directly to Power Features Installer Application 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			Result. This field consists of subfield TRSEL.
	TRSEL	FEAT	Translations Selector. This subfield specifies the translations selector to be used. Enter FEAT.
If TRSEL is set to FEAT, subfields ACR, SMDR, VCDR, and FEATURE require datafill.			
	ACR	Y, N	Account Code Entry. This subfield specifies whether an account code is required. Enter Y or N.
	SMDR	Y, N	Station Message Detail Recording. This subfield specifies whether SMDR is required. Enter Y or N.
	VCDR	Y, N	Variable Call Detail Recording. This subfield specifies whether VCDR is required. Enter Y or N.
	FEATURE	INSTALL	Feature. This subfield specifies the feature assigned to a line. Enter INSTALL.

Datafill example for table IBNXLA

The following example shows sample datafill for table IBNXLA.

Power Features Installer Application (continued)

MAP display example for table IBNXLA

```
            KEY
                                                RESULT
 ------------------------------------------------------------------------
   NTIXLA     123
                                            FEAT N Y N INSTALL
```

Datafilling table PFCTRL

The following table shows the datafill specific to Power Features Installer Application for table PFCTRL. Only those fields that apply directly to Power Features Installer Application are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table PFCTRL

Field	Subfield or refinement	Entry	Explanation and action
PFOPT		QLEN	Power Feature Options. This feature specifies the power feature options. Enter QLEN.

Datafill example for table PFCTRL

The following example shows sample datafill for table PFCTRL.

MAP display example for table PFCTRL

```
      CUSTGRP     PFOPT     ENABLED     AUDIT
 ------------------------------------------------------------------------
    PFDEFAULT      QLEN           N         N
```

Datafilling table FTRGOPTS

Table FTRGOPTS (Feature Group Options) assigns line options to feature groups.

The following table shows the datafill specific to Power Features Installer Application for table FTRGOPTS. Only those fields that apply directly to

Power Features Installer Application (end)

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

Datafilling table FTRGOPTS

Field	Subfield or refinement	Entry	Explanation and action
OPTION		PFCNTL	Option. This field specifies the power feature option. Enter PFCNTL for power features control.
OPTVAR			Option Variable. This field consists of subfield PFAPPL.
	PFAPPL	QLEN	Power Features Applications. This subfield specifies up to four power feature applications. Enter QLEN.

Datafill example for table FTRGOPTS

The following example shows sample datafill for table FTRGOPTS.

MAP display example for table FTRGOPTS

```
   FTRGRP          OPTION     OPTION
                                                 OPTVAR
_____________________________________________________________
 PFGROUP1            PFCNTL        PFCNTL
    (   NAME) (   PSWD) (   QLEN) $
```

Translation verification tools

Power Features Installer Application does not use translation verification tools.

SERVORD

Power Features Installer Application does not use SERVORD.

4 Datafilling MDC Tailored MDC 3

The following chapter describes the MDC Tailored MDC 3, MDC00014, functionality.

Access Feature Grouping

Ordering codes

Functional group ordering code: MDC00014

Functionality ordering code: not applicable

Release applicability

BCS29 and up

Prerequisites

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

Description

Access Feature Grouping enables the operating company to package individual residential and business features into logical groups that can be assigned as a single option to any number of lines using a single Service Order System (SERVORD) command. These logical groups of features are called access feature groups (AFG), or feature groups. Removing the need to assign each feature to a line not only simplifies the service order process but also ensures uniform feature assignment to a group of lines.

In addition, the following options are available through Access Feature Grouping:

- Power features control (PFCNTL) permits operating companies to restrict subscriber access to power features.
- Power features display (PFDSP) permits operating companies to give subscribers access to a display environment that simplifies the activation of existing features.
- Customer data change (CDC) permits operating companies to allow subscribers to read and, optionally, to update the feature group data associated with the customer groups they own.
- Calling line number display (CLIDSP) provides greater flexibility in formatting the calling party display on Meridian business sets (MBS).
- Feature key templates can be predefined by subscribers for all types of business sets. The template is then assigned to the line, thereby eliminating the need to assign each feature key individually and ensuring consistent feature key layout throughout the customer group.

Feature groups

A feature group is a set of options that can be assigned to individual lines with a single SERVORD command. The type of line the feature group is intended for is specified when the group is defined. For example, a group with call waiting, call forwarding, and three-way calling could be defined for residential lines. Compatibility of the options with one another and with the line class code (LCC) is enforced when the feature group is defined.

Special group options can be assigned to individual feature groups using field OPTIONS in table FTRGDEFS (Feature Group Definitions). Although this field was designed for a list of options to be specified, currently only two options are available: CDC and MAXLINE (maximum number of lines associated with a feature group).

Each feature group must be associated with a specific class of line terminal, indicated in subfield CLASS of table FTRGDEFS. Each station class corresponds to one or more LCCs, as shown in the following table.

Station classes

Station class	Description	Line class code
DATA	Data line (data unit and Meridian asynchronous data option sets)	DATA, MADO, MPDA
IBN	Integrated Business Network (500/2500)	IBN
ISDN	Integrated services digital network (basic rate access functional sets [BRAFS])	ISDNKSET (BRAFS)
MBS	Meridian business set (and electronic)	PSET, M2009, M2112, M2018, M2317, M3000, M5009, M5112, M5209, M5312, M2008, M2616, M2016S, M2216A, M2216B
RES	Residential line	1FR, 1MR, RES

Private feature groups

Customer groups and feature groups are not related, except that a customer group can own a feature group. Individual feature groups can be made available on an office-wide basis or restricted to a customer group. A feature group owned by a customer group is a private group. A private feature group cannot be assigned to other customer group lines. Private feature groups are

Access Feature Grouping (continued)

assigned to a single customer group, which is specified in field CUSTGRP of table FTRGDEFS.

Public feature groups can be assigned the CDC option. This option provides non-operating company users with the capability of viewing and even modifying the feature group data associated with the customer groups they own. CDC users are given access to their feature group data through tables FTRGDEFS and FTRGOPTS (Feature Group Options), using the Partitioned Table Editor feature (BC1459).

To provide CDC users the ability to assign and modify private feature groups, the feature group must be added to table DATAOWNR (Data Owner) and associated with an owner.

Public feature groups

Public feature groups can be assigned to any lines in a central office, if the line type matches that specified in the feature group definition. Feature groups other than those associated with the Residential Enhanced Services (RES) station class can be designated as either public or private, while RES feature groups are designated public by default.

Each feature group has an identifier that is unique in the central office. Once defined, feature groups are assigned one line at a time. They cannot be assigned with one command to more than one line, to a customer group, or to a central office.

Feature group options

The options listed in the following tables are divided into fully and partially supported options and CLASS options. Fully supported options can be added to, modified in, or deleted from feature groups at any time. Partially supported options can be added to, modified in, or deleted from feature groups only when the groups are not assigned to lines.

Fully supported options

When added to a group, fully supported options take effect immediately on all lines already associated with the feature group. For example, if option LNR is added to a feature group, all lines associated with the group have immediate access to LNR.

Access Feature Grouping (continued)

The following table lists the fully supported feature options.

Fully supported feature options (Sheet 1 of 3)

Option	Description
AUD	Automatic Dial
AUTODISP	Automatic Display
BLF	Busy Lamp Field
CCV	Call Covering
CCW	Cancel Call Waiting
CFDVT	CFD Variable Timer
CHD	Call Hold
CLID	Calling Line Number Display
CNDB	Calling Number Delivery Blocking
CNF	Station Conference
CTW	Call Transfer Warning
CWD	Call Waiting Dial
CWI	Call Waiting Intragroup
CWO	Call Waiting Originator
CWR	Call Waiting Ringback
CWT	Call Waiting
CWX	Call Waiting Exempt
CXR	Call Transfer
DCBI	Directed Call Pickup Barge-in
DCBX	Directed Call Pickup Barge-in Exempt
DCF	Deny Call Forwarding
DCPK	Directed Call Park
DCPU	Directed Call Pickup

Access Feature Grouping (continued)

Fully supported feature options (Sheet 2 of 3)

Option	Description
DCPX	Directed Call Pickup Exempt
EMW	Executive Message Waiting
HLD	Permanent Hold
INSPECT	Inspect Key
KSMOH	Keyset Music on Hold
LNR	Last Number Redial
LNRA	Last Number Redial for Set (All)
LVM	Leave Message
MSB	Make Set Busy
MSBI	Make Set Busy Intragroup
MWT	Message Waiting
OLS	Originating Line Select
PCWT	Precedence Call Waiting
PF	Power Features
PFCNTL	Power Features Control
PFDSP	Power Features Display
PRK	Call Park
QTD	Query Time and Date
RAG	Ring Again
REASDSP	Reason Display
SL	Secondary Language
SMDR	Station Message Detail Recording
TLS	Terminating Line Select

Access Feature Grouping (continued)

Fully supported feature options (Sheet 3 of 3)

Option	Description
3WC	Three-Way Calling
3WCPUB	Three-Way Calling Public Announcement

Partially supported options

Partially supported options can be added to, modified in, or deleted from feature groups only when the groups are not assigned to lines. To add, modify, or delete any partially supported options to or from a group with existing line assignments, the group must be removed from all lines to which it is assigned, the required changes must be made, and the group must be reassigned to the lines.

The following table lists partially supported feature options.

Partially supported feature options (Sheet 1 of 2)

Option	Description
ACB	Automatic Call Back
AR	Automatic Recall
CFB	Call Forward Busy (IBN)
CFBL	Call Forward Busy Line
CFD	Call Forward Don't Answer (IBN)
CFDA	Call Forward Don't Answer
CFI	Call Forward Intragroup (IBN)
CFK	Call Forward Universal per Key
CFS	Call Forward Simultaneous/Screen
CFU	Call Forward Universal (IBN
CFW	Call Forwarding
CNAMD	Calling Name Delivery
CND	Calling Number Delivery
COT	Customer Originated Trace

Access Feature Grouping (continued)

Partially supported feature options (Sheet 2 of 2)

Option	Description
DDN	Dialable Directory Number
SCL	Speed Call Long (IBN)
SCS	Speed Call Short (IBN)
SC1	Speed Call Short
SC2	Speed Call Long
SC3	Speed Call (RES)

CLASS options

Under certain circumstances, the following CLASS options are fully supported. This means they can be added to or removed from feature groups after the groups have been assigned to lines.

Options CNAMD, CND, CNDB, and DDN are by default partially supported because they sometimes require additional information that is unique to each line. These options have one subfield, BILLING, that accepts the value AMA (automatic message accounting) or NOAMA. Subfield BILLING cannot be changed in a feature group after the group is assigned to one or more lines. In addition, if subfield BILLING is set to AMA, the option cannot be added to or removed from a feature group once that group is assigned to one or more lines. If subfield BILLING is set to NOAMA, however, no additional data is required; therefore, the option can be added to or deleted from a feature group.

Options ACB, AR, and COT are partially supported because they require call memory data blocks allocated for each line to which the group is assigned. This memory is used for storing information about previous calls, such as the last incoming directory number (DN) and the last dialed DN. For each line, the data blocks are allocated only once, when the first option is assigned. All three options use the same call memory area. Therefore, if one of the three options is assigned to a feature group, the other two options can be assigned to the group at any time, because no more data allocation is necessary. Similarly, if more than one of the options is assigned to a feature group, all but one can be deleted from the group at any time, but one of the three must still be assigned to the group.

Access Feature Grouping (continued)

The following table lists CLASS options that are partially supported (under certain circumstances fully) by feature groups.

CLASS options

Option	Description
ACB	Automatic Call Back
AR	Automatic Recall
CNAMD	Calling Name Delivery
CND	Calling Number Delivery
CNDB	Calling Number Delivery Blocking
COT	Customer Originated Trace
DDN	Dialable Directory Number

Business set feature keys

Lines associated with business sets (station classes MBS, DATA, and ISDN) can have multiple DN appearances and separate sets of options.

In general, assigning a feature group to a business set line automatically assigns the same set of options to all DNs on the set. Therefore, only one feature group can be assigned to a business set, regardless of the number of DNs associated with it. There are two exceptions to this rule:

- Single intercom (ICM), group intercom (GIC), and private business line (PBL) appearances do not inherit the feature group options.
- Call forwarding options are not necessarily assigned to all DNs on a business set. Call forwarding is described in detail later in this section.

When feature groups are assigned to business sets, the options included in the group are not assigned to dedicated keys. However, certain feature group options can be assigned to dedicated keys on individual business sets. When a feature group is deleted from a business set, all key assignments are deleted as well.

When a nongroup option is assigned to a dedicated key through SERVORD, any subfields associated with the option are prompted for. For example, option MWT has three subfields prompted for by SERVORD. When a feature group option is assigned to a dedicated key, however, any associated subfields are not prompted for; SERVORD omits the prompts. Feature group options can be modified only through the feature group definition.

Access Feature Grouping (continued)

Deleteable feature group options

When an option is deleted from a business set, it is available through an access code only. Even if the feature is unavailable, it is still in the feature group and can be assigned to a different key. The following feature group options can be deleted from a feature group at any time, even if they are assigned to dedicated keys:

- CCV
- CNF
- CWT
- CXR
- DCPK
- EMW
- INSPECT
- LVM
- MSB
- MSBI
- PRK
- QTD
- RAG
- 3WC

Dedicated key feature group options

The following feature group options must be assigned to a dedicated key on a business set for the business set subscriber to activate them (they function identically for all DNs on the business set):

- AUD
- BLF
- CCV
- CWT
- CXR
- EMW
- INSPECT
- LVM
- MWT

- QTD
- RAG
- 3WC

Dedicated key or access code feature group options

The following feature group options can be assigned to a dedicated key or activated through an access code (they function identically for all DNs on the business set):

- CFI
- CFU
- CNF
- MSB
- MSBI
- PRK
- SCL
- SCS

Note: When assigning options to keys through table KSETFEAT (Business Set and Data Unit Feature) using the table editor, option subfields must be datafilled exactly as they are datafilled for the feature group definition.

Call forwarding options and business sets

Call forwarding options assigned through feature groups are not necessarily inherited by all DN appearances of a business set. If a feature group with call forwarding options is assigned to a business set line without previous forwarding options existing, all DN appearances of the set are assigned the forwarding capabilities of the feature group.

If a feature group with call forwarding options is assigned to a business set line that already has call forwarding options, call forwarding is applied through the group in the same way as it was prior to group assignment. All DNs that previously had call forwarding assigned will have the forwarding options of the feature group.

For an individual business set, the KEYLIST parameter lists the DNs that have access to the call forwarding options defined for the primary DN. DNs can be added to or deleted from the keylist after a feature group is assigned to a business set line. If new DNs are assigned to a business set line after a feature group is assigned, the call forwarding options are not automatically assigned to the new DN. That DN must first be added to the keylist.

Access Feature Grouping (continued)

Power features with feature groups

Power feature (PF) options can be assigned to feature groups, giving group subscribers access to the applications that are available in the PF environment. Subscribers must have an MBS with an interactive display to take advantage of PF options.

Option PF

When option PF is assigned to a feature group, additional characteristics about the PF environment can be specified. Specifically, the password required for PF application access can be indicated, as well as whether subscribers have general or administrative privileges and if the prompts are in English or French. By default, subscribers have general access to applications, and they are prompted in English.

> ***Note:*** Before assigning option PF to a new customer group, make sure that the customer group tuple exists in table CUSTNTWK.

Unlike other feature group options, PF parameters can be changed on individual lines when assigning option PF to a dedicated key through SERVORD. In this way, administrative access can be granted to certain subscribers while restricting all others to general access. PF parameters that are assigned on individual lines take precedence over parameters assigned through the feature group.

Options PFCNTL and PFDSP are related to option PF. Option PFCNTL allows operating companies to restrict the capabilities provided to subscribers by option PF. Option PFCNTL can restrict both PF applications (such as name programming and password updating) and the options available through the feature key definition application (such as options AUD and CFU). Option PFDSP provides subscribers with an interactive display menu that enhances the end user's ability to make full use of existing features. Refer to “Interactive Display Menu on MBS Sets" in the MDC translation section of this document for more information on the display menu capabilities.

Option PFCNTL

When option PFCNTL is assigned to a feature group, the capabilities made available to end users can be restricted. This option is available only through feature groups; it cannot be assigned on individual lines.

Subscribers can be granted access to up to four of the following capabilities using option PFCNTL:

- NAME (name programming)
- PSWD (password updating)

- LANG (language selection)
- KEYDEF (feature key definition)
- FTRACT (feature activation)

With the KEYDEF capability, subscribers can assign the following options to dedicated keys on their business sets:

- AUD
- BLF
- CCV
- CFU
- DCPK
- EMQTDW
- INSPECT
- LVM
- MSB
- PRK
- RAG
- 3WC

Subscribers with the KEYDEF capability can assign only those options that are included in their feature group.

If option PFCNTL is omitted from a feature group but option PF is included in the group, subscribers have the same default capabilities as those who are assigned option PF outside a feature group.

Option PFDSP

Option PFDSP provides subscribers with a display environment that can simplify the activation of existing features. No additional parameter data is required for this option. It can be assigned as part of a feature group or individually. Refer to “Interactive Display Menu on MBS Sets" in the MDC translation section of this document for information on the enhanced display environment.

Customer data change with feature groups

Option CDC can be included in the feature group definition. With the CDC feature group option, subscribers can be granted the right to view and modify feature group data associated with the feature groups owned by their customer

Access Feature Grouping (continued)

group. Subscribers access data through the partitioned table editor. Refer to *Customer Data Change (CDC) Operating Company Guide*, 297-2061-312, for more information on the CDC feature.

To provide CDC users the ability to assign and modify private feature groups, the feature group must be added to table DATAOWNR (Data Owner) and associated with an owner.

If option CDC is assigned to a feature group, subscribers have the right to view any data associated with public feature groups. In addition, subscribers can modify data associated with the feature groups they own, provided they do not violate any restrictions for adding and deleting options from groups.

Table CDCOPTS (Customer Data Change Line Option) controls the options CDC subscribers can assign to lines through SERVORD, but it does not control the options they can assign to their feature groups. Therefore, CDC subscribers can assign any feature-group supported option to their groups even if that option is incompatible with existing options.

If FTRGRP is added as an option to a tuple in table CDCOPTS (Customer Data Change Line Option), CDC subscribers can assign the following types of feature groups to lines that they own:

- private feature groups owned by their customer groups
- public feature groups with option CDC

Calling line number display with feature groups

Option CLID is available only through feature groups. This option allows the subscribers to control the format of the calling line address on business set displays. Without this option, the calling line address is formatted as described in “Network Dial Plan Display" in the MDC translations section of this document. The network dial plan display feature provides a way to format a calling party number into a form that is recognizable to the called party's dial plan. This formatting is done through the datafill of tables DNREGION (Directory Number Region) and DNREVXLA (Directory Number Reverse Translation).

Access Feature Grouping (continued)

If option CLID is assigned to a feature group, it provides the ability to enhance the reverse translations of the calling party number or to override it altogether. Following are the four types of display formats:

- Option STD (standard display format) overrides the dial plan display format. With this option, standard formatting rules are used even when a reverse translator is defined for the calling party's customer group.
- Option OPT (optional prefix display) works with the dial plan display format. With this option, the digits specified as prefix digits in field OPTPRFX of table DNREVXLA are prefixed to the digit string resulting from the reverse translation process. Without this option, the prefix digits are ignored. Examples of prefix digits are 1 for long-distance calls and 9 for private branch exchange calls.
- Option ENH (enhanced display format) enhances either the standard display format or the dial plan display format. With this option, digits are formatted with dashes (-) inserted to make the display more readable. The dashes separate prefix digits, numbering plan area (NPA), and DN.
- Option FULL (full display format) provides the formatting of both options OPT and ENH.

The ENH display format supports the North American dial plan only and enhances the display of 7-, 8-, 10-, and 11-digit numbers. The following figure illustrates normal and enhanced displays of calling party DNs.

Access Feature Grouping (continued)

Normal and enhanced displays for calling party DNs

Normal display	Enhanced display
Incoming call from the same NPA:	
J. SMITH 8252995	J. SMITH 825–2995
Outgoing private network call:	
P. ROY 64434612 34612	P. ROY 6–443–4612 34612
Incoming local call from a different NPA:	
6137258106	613–725–8106
Incoming long-distance call with prefix display:	
19194713060	1–919–471–3060

Service groups

Prior to NA005, a service group was defined as any feature group specified with the scope of CUST (customer). Applicable to NA005 and up, service groups are defined by specifying SVCGRP in the GRPTYPE field. Additionally, service groups can be defined with a SCOPE of PUB (may be used by many customer groups) or PRIV (can be used only by the customer group specified).

Service groups can contain only two options: Calling Line Identification (CLID) and Name Display (NAMEDSP), assignable in table FTRGOPTS. Within the CLID option users can indicate the Reason Display (REASDISP) option. Feature groups, which can be both public and private, can contain several line options.

A line can be assigned both a service group and a feature group at the same time.

Operation

Feature groups are defined through datafill. Feature group definitions include the name of the group, the type of line to which the group can be assigned, the owner of the group (if any), the features assigned to the group, and the options assigned to the group.

Feature group ownership is established through table DATAOWNR (Data Owner), which associates tables with owners. A subscriber can own several feature groups, but a feature group belongs to only one subscriber.

Feature groups are identified in table DATAOWNR by table name and feature group name, as shown in the following figure.

MAP display example of table DATAOWNR

```
KEY                                        OWNER
_____________________________________________________________
FTRGRP        RTP                          NILOWNER
```

Assigning an owner to table FTRGRP implicitly gives that subscriber ownership to the tuples in table FTRGOPTS that are related to the appropriate feature group.

The groups are then assigned to individual lines through SERVORD. Once a group has been assigned to a line, that line subscriber has access to all features and options in the group.

Feature groups change the way line option data is represented internally. For individually assigned features, information about the line options is stored in data structures that are unique to individual lines. In general, feature group information is stored separately from the line and feature data tables. However, information for call forwarding options (CFBL, CFDA, CFW, CFB, CFD, CFI, and CFU) and speed calling options (SC1, SC2, SC3, SCS, and SCL) is stored in the feature assignment tables, IBNFEAT (IBN Line Feature) and KSETFEAT (Business Set and Data Unit Feature).

Although the representation of feature group data can differ from that of line attribute data, the table editor's data query commands QDN (query individual line data) and QLEN (query line data related to a given LEN) display the feature group data in the same format as data for individually assigned options. Feature group option data is displayed under the heading FTRGRP OPTIONS.

Access Feature Grouping (continued)

Refer to “User interface" in this feature description for more information on the QDN and QLEN commands.

Operation for defining feature key templates

Access Feature Grouping defines feature key templates that can be assigned to a business set with a single SERVORD command. Once assigned, however, the feature key template is not enforced; that is, new options can be assigned to additional keys, old options revoked, and existing options assigned to different keys.

The following table lists the options that can be assigned to feature keys through a feature key template. Note that this list differs from the list of feature group-supported options.

Feature key template options (Sheet 1 of 2)

Option	Description	Defaults
AAB	Automatic Answerback	
ACDNR	ACD Not Ready	
AUD	Automatic Dial	
CCV	Call Coverage	
CFX	Call Forwarding	CFU N N 1
CNF	Station Conference	C06
CPU	Call Pickup	
CWT	Call Waiting	Y Y N
CXR	Call Transfer	CTALL N
DCPK	Directed Call Park	
DROP	Drop Key	
EBO	Busy Override	
EMW	Executive Message Waiting	CLASSP 1
FC	Flexible Calling	3
HLD	Hold (ISDN)	
INSPECT	Inspect Key	

Access Feature Grouping (continued)

Feature key template options (Sheet 2 of 2)

Option	Description	Defaults
LVM	Leave Message	
MCH	Malicious Call Hold	
MSB	Make Set Busy	N
MWIDC	Message Control Indicator	
MWQRY	Message Control Query	
MWT	Message Waiting	Y N
PF	Power Features	$
PRK	Call Park	
PRL	Privacy Release	
PRV	MADN Privacy	
QTD	Query Time/Date	
RAG	Ring Again	
RLS	Release (ISDN)	
SCL	Speed Call Long	L30
SCS	Speed Call Short	
SCU	Speed Call User	
XFER	Transfer	CTALL
3WC	Three-Way Calling	

Subfield data for options that require additional information is assigned as follows:

- If the option belongs to a feature group that is associated with the set, the attributes assigned with the feature group are used.
- If the option is already assigned for code access, the attributes assigned with the feature are used.

Access Feature Grouping (continued)

- If the option is assigned for code access with the same SERVORD command used to assign the template to a set, the attributes assigned with the SERVORD command are used.
- If none of the above conditions apply, the defaults listed in the preceding table are used.

Some options require additional data but do not have default values. These options must be set up for code access, either before a template is assigned to a set or in the same SERVORD command used to assign a template.

Some options require a list of DN keys, the DN appearances to which the options are assigned in addition to the primary DN. Generally, options are assigned to key 1 only, the primary DN, by default. However, the MSB option is assigned to all DN appearances on the set.

User interface

Output from the QDN, QLEN, QLT (query logical terminal data), and QGRP (query CPU group or long SCU group) commands includes feature group information.

QDN command

The QDN command displays the name of the feature group, its options, and related information. The following figure shows the feature group data displayed by the QDN command.

Example MAP display of the QDN command

```
QDN 5554611
_____________________________________________________________
DN:
5554611
TYPE: SINGLE PARTY LINE
SNPA: 919  SIG: DT  LNATTIDX:   0
LINE EQUIPMENT NUMBER:   HOST 00 0 03 16
LINE CLASS CODE:   IBN
IBN TYPE:  STATION
CUSTGRP:
MDCGRP1  SUBGRP: 0   NCOS: 0
SIGNALLING TYPE:  DIGITONE
CARDCODE:  6X17AC   GND: N  PADGRP: STDLN  BNV: NL MNO: N
PM NODE NUMBER      :    16
PM TERMINAL NUMBER  :    113
OPTIONS:
DGT  CPU 0 HOST 00 0 00 29
FTRGRP OPTIONS: IBNBASICO2
3WC RAG PRK LNR MSB SCS CNF 18 MWT STD Y N
```

QLEN command

In addition to the data displayed for DNs, the QLEN command displays a list of all options assigned to dedicated keys. Feature group options that are assigned to dedicated keys are displayed, while all other feature group options are omitted from the display. The following figure shows the feature group data displayed by the QLEN command.

Access Feature Grouping (continued)

Example MAP display of the QLEN command

```
QLEN 0 0 0 21
_____________________________________________________________
LEN:
HOST 00 0 00 21
TYPE: SINGLE PARTY LINE
SNPA: 919
DIRECTORY NUMBER:   5555643
LINE CLASS CODE:   PSET (WITH DISPLAY)
IBN TYPE:  STATION
CUSTGRP:
MDCGRP1  SUBGRP: 0   NCOS: 0  RING: Y
ADDONS: NONE  EXTENSION: N
CARDCODE:  6X21AC   GND: N  PADGRP: PPHON  BNV: NL MNO: Y
PM NODE NUMBER      :    18
PM TERMINAL NUMBER  :    22
OPTIONS:
3WC RAG AUD CPU 0 HOST 00 0 00 06 $
FTRGRP OPTIONS: MDC14MBS
LNRA KSMOH SMDR CNF C18 CLIDSP OPT REASDSP ENGLISH2
SCL L50 CFU $ I $ CFB P 24675 A $ CBE
KEY
DN
1   DN 5555643
2   DN 5555644

KEY
FEATURE
3   3WC
4   CFU   $ I $
4   CFB P  24675    A $
4   CBE
5   MWT Y N
6   RAG
7   AUD
8   CNF C18
9   CPU  0 HOST 00 0 00 06 $
```

QLT command

The QLT command displays information about ISDN and functional sets. QLT includes information about a feature group that is assigned to a functional set. The following figure shows the feature group data displayed by the QLT command.

Access Feature Grouping (continued)

Example MAP display of the QLT command

```
QLT FUNC1 36
_____________________________________________________________
LTID: FUNC1  36
DPN GROUP NO: 1
LTCLASS: BRAFS EKTS: Y
BEARER SERVICE RESTRICTIONS:  NOPMD
CS: Y PS: N
SPID-SUFFIX  36
LEN: HOST 02 2 02 03   TEI: DYNAMIC
CUSTGRP:   COMKODAK  SUBGRP: 0  NCOS: 0
LINE CLASS CODE: ISDNKSET
MAXKEYS: 32
MADN MEMBER INFO:
  FUNC    130
  FUNC1   36
  FUNC3   11
OPTIONS:
RAG EBO SFC SCS AUD
FC 3 XFER CTALL DROP CPU 0 FUNC3 30 $ PRL
FTRGRP OPTIONS: ISDNGP1
CFI 26048 I $ CFB P 26050 A $
LNR MSB $ PRK SCS

 KEY
DN
 1       DN 5555058 SCA       PRIMARY

 KEY
FEATURE
 5       CFI  26048   I $
 5       CFB  P  26050   A $
 6       AUD
 7       SCS
 8       FC 6
 9       XFER CTALL
 10      DROP
 13      CPU     0    FUNC3  30 $
 18      PRK
 20      PRL
 21      RAG
 22      MSB $
 23      EBO
 24      RLS
```

Access Feature Grouping (continued)

QGRP command

The QGRP command displays group characteristics, the list of options assigned to a feature group, and, optionally, the list of lines belonging to a feature group. The following example input shows the parameters and variables used with the QGRP command when querying a feature group.

Entering the QGRP command

At the MAP display

Enter the QGRP command by typing

```
>QGRP FTRGRP (dn or ftrgrp_name or len) brief or full
```

and pressing the Enter key.

where:

FTRGRP
displays the members of a feature group

dn
specifies the DN, a 7-digit number that designates an end user's station within one NPA. It is usually a 3-digit central office code followed by a 4-digit station number.

ftrgrp_name
specifies the name of the feature group or service group

len
specifies the line equipment number (LEN) that identifies the site, frame, unit, drawer, and circuit of the MBS, IBN line, attendant console, or data unit

brief
displays only the characteristics and options of the feature group

full
displays a list of all lines assigned to the feature group

A brief report displays the group characteristics and options; a full report displays a list of lines assigned to the feature group. The full format should be used only when necessary, because the number of lines that can be associated with a feature group is limited only by the maximum number of tuples allowed for table FTRGMEMS (Feature Group Members).

The following figure shows the service group data displayed by the QGRP command when a brief report is specified.

Example MAP display of the QGRP command

```
QGRP FTRGRP MDC14MBS BRIEF
_____________________________________________________________
SERVICE GROUP
-------------
NAME: MBSVCGP1     CLASS:MBS
OWNERSHIP: PRIVATE BNRMER
OPTIONS:
CDC
FTRGRP OPTIONS:
CLID


The number of members in the FEATURE GROUP is 156.
```

The following figure shows the feature group data displayed by the QGRP command when a full report is specified.

Access Feature Grouping (continued)

Example MAP display of the QGRP command

```
QGRP FTRGRP IBNBASIC02 FULL
_____________________________________________________________
FEATURE GROUP
-------------
NAME: IBNBASIC02   CLASS: IBN
OWNERSHIP: PUBLIC
OPTIONS:
NONE
FTRGRP OPTIONS:
3WC RAG PRK LNR MSB SCS CNF C18 MWT STD Y N

LENS:
HOST 00 0 00 29 5555219

HOST 00 0 03 16 5558654

HOST 00 0 03 18 5559034

HOST 00 0 19 25 5557826

The number of members in the FEATURE GROUP is 4.
```

Defining feature key templates does not affect user interface.

Translations table flow

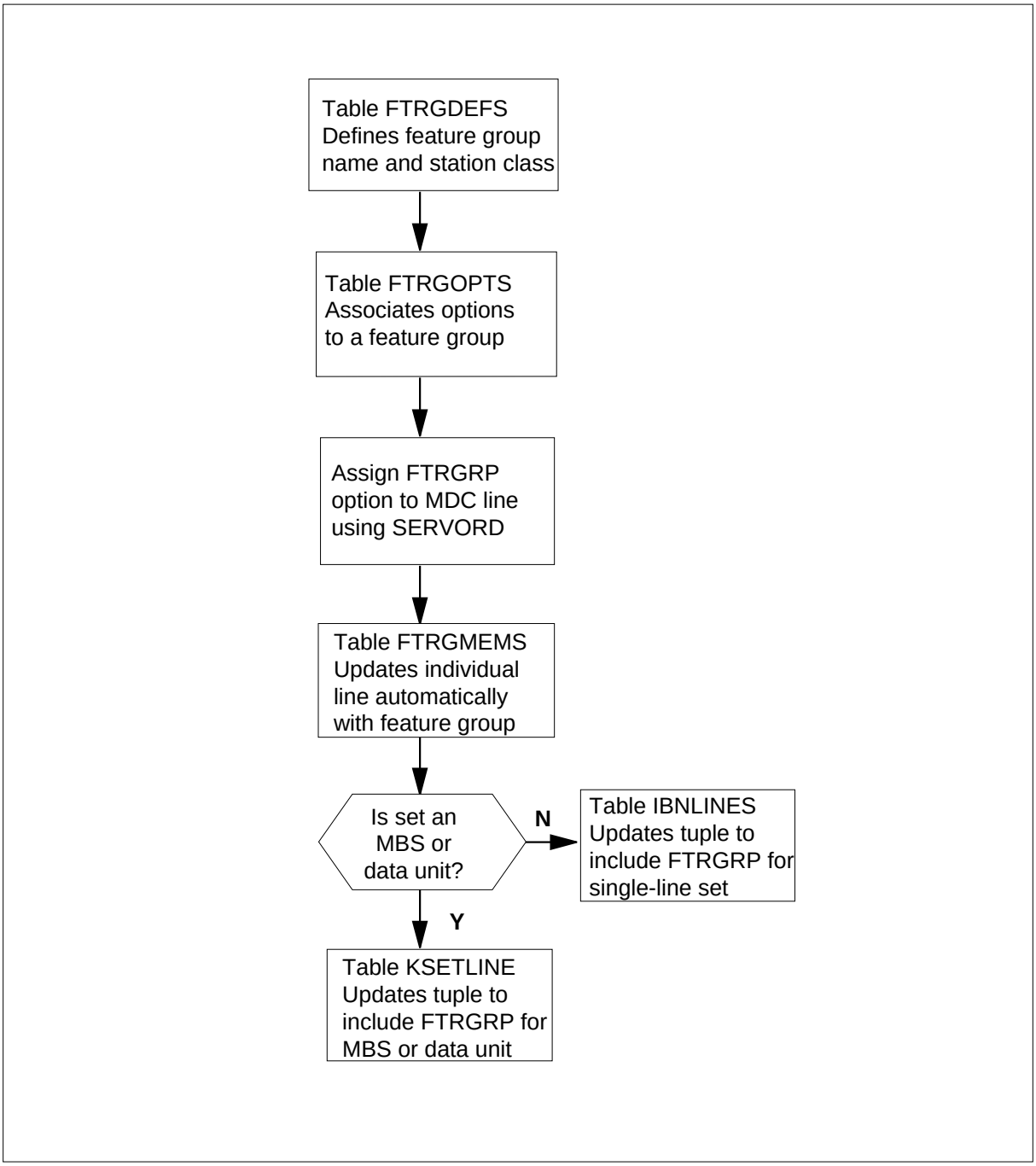
The Access Feature Grouping translations tables are described in the following list:

- Table FTRGDEFS (Feature Group Definitions) provides the operating company with the capability of packaging residential and business line features into logical groupings that can then be assigned to individual lines using a single SERVORD command. Table FTRGDEFS is used to specify the group characteristics of each feature group.
- Table FTRGOPTS (Feature Group Options) is used to assign line options to all feature groups defined in an office. This table is also used to specify the characteristics of individual feature group options.
- Table KSETKEYS (Business Set and Data Unit Keys) defines feature key templates that assign features to dedicated keys on a variety of business sets using SERVORD.

The Access Feature Grouping translation process is shown in the flowcharts that follow.

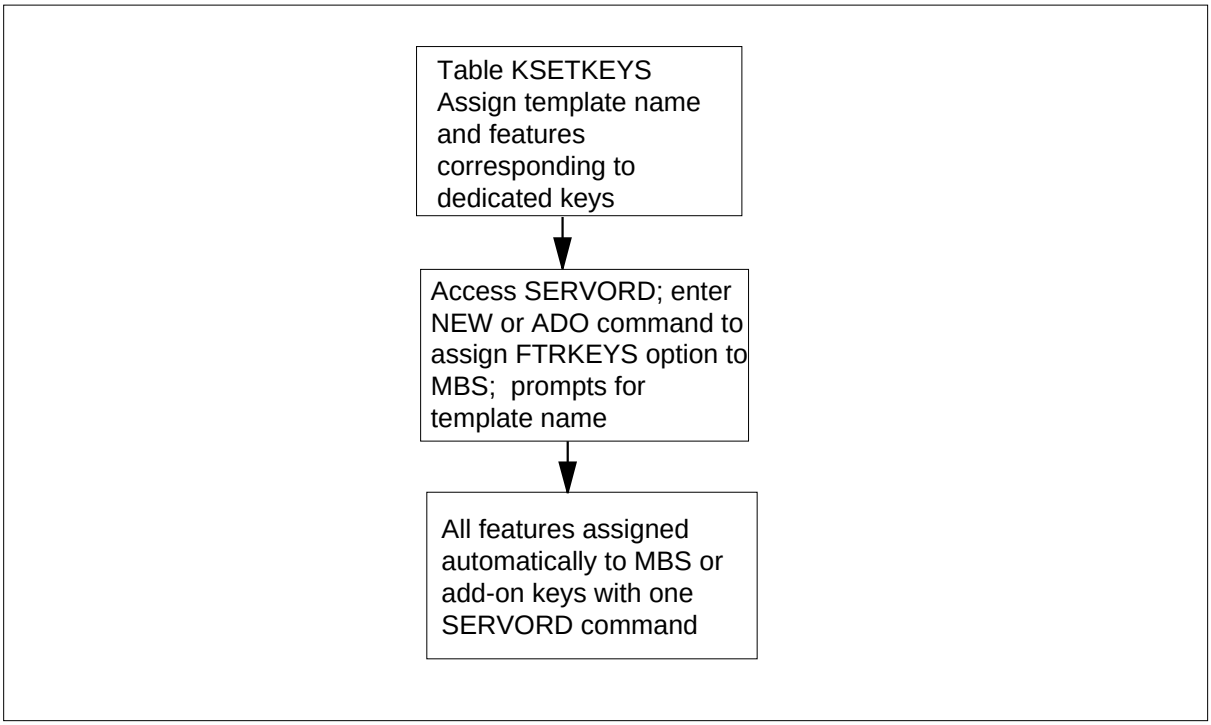
Access Feature Grouping (continued)

Table flow for Access Feature Grouping



Access Feature Grouping (continued)

Table flow for Access Feature Grouping for feature key template assignment on an MBS



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

Datafill example for Access Feature Grouping

Datafill table	Example data
FTRGDEFS	AFGPUB FTRGRP MBS PUB 0 (CDC) $
FTRGOPTS	MDC05IBN OPTS OPTS (RAG) (SMDR) $
KSETKEYS	MBSBASIC M5209 (BLK) (3WC) (CFX) (CWT) (RAG) (SCS) (PRK) (CPU) $

Limitations and restrictions

The following limitations and restrictions apply to Access Feature Grouping:

- Only the line options listed in table “Feature options" in this feature description can be assigned to a feature group.
- A feature group can include up to 30 options.
- Both a service group and a feature group can be assigned to the same line simultaneously.
- Feature groups are created and modified through the table editor; they cannot be modified through SERVORD.

Access Feature Grouping (continued)

- A feature group defined for LCC RES must have at least one subscriber service option in the group before it can be assigned to the subscriber service line. (A subscriber service option is compatible with LCC RES but incompatible with the following LCCs: 1FR, 1MR, 2WW, EOW, ETW, INW, and OWT.) The following subscriber service options can be assigned to a feature group:
  - ACB
  - AR
  - CFBL
  - CFDA
  - CFW
  - CNAMD
  - CND
  - CNDB
  - COT
  - CXR
  - DDN
  - MSB
  - SC2
  - SC3
- The following options can be assigned to a feature group without associated lines:
  - ACB
  - AR
  - CFB
  - CFBL
  - CFD
  - CFDA
  - CFI
  - CFS
  - CFU
  - CFW
  - COT

Access Feature Grouping (continued)

— SCL

— SCS

— SC1

— SC2

— SC3

- If a business set feature group includes an option that is invoked using a dedicated key, that option can be assigned to different keys on different business sets.
- Each station class requires the presence of a software package before a feature group can be defined for that class. Table “Feature group station classes and required LCCs and software packages" in this feature description lists the station classes and the software package required for each LCC.
- Subscriber service feature groups can be assigned to POTS lines if field RES_AS_POTS in office parameter RES_SO_SIMPLIFICATION is set to Y and if the POTS line has an LCC of 1FR, 1MR, 2WW, EOW, ETW, INW, or OWT. The assignment of a feature group to one of these lines results in an immediate conversion to the LCC of RES. Conversely, deleting a feature group from a RES line may result in an immediate conversion to the LCC of 1FR or 1MR.
- Only programmable versions of options CFW, CFBL, and CFDA can be assigned to lines through feature groups. Options CFBL and CFDA require that field ENHANCED_POTS_OPTIONS of office parameter RES_SO_SIMPLIFICATION be set to Y in table OFCVAR.
- Only programmable versions of options CFU, CFB, and CFD can be assigned to lines through feature groups. Furthermore, call forwarding options cannot be assigned to a feature group unless software package NTX413AA is present in the office.
- Option SCL cannot be assigned to feature groups in offices with software package NTX733AA because it requires a unique group number to be associated with each line's SCL list. Option SCL, however, can be assigned individually to lines associated with a feature group.
- Feature groups are assigned to lines through SERVORD one line at a time. There is no way to assign a feature group to several lines with a single SERVORD command. The data modification order (DMO) facility, however, can be used to bulk load feature groups to lines. Refer to *SERVORD Reference Manual*.
- The CLN (change LEN) command cannot be executed against a line that is assigned a feature group. To change the LEN of such a line, the feature

group must be deleted from the line, the LEN changed, and the feature group reassigned to the line.

- The CHG LCC (change LCC) command cannot be executed against a line that is assigned a feature group. To change the LCC of such a line, the feature group must be deleted from the line. If the new LCC corresponds to the same station class as the old LCC, the feature group can then be reassigned to the line.

The following limitations and restrictions apply to defining feature key templates:

- Feature key templates provide a convenient way to assign features to keys, but once assigned, any feature key can still be modified, moved to a different key, or deleted from the set.
- Only the line options listed in table “Feature key templates options" in this feature description can be assigned to a feature key template.
- An office can have up to 512 feature key templates defined.
- Feature key templates do not override existing feature key assignments. That is, if options included in a template already exist on a business set, the existing key assignments and associated parameters are used for those keys. Other keys in the template, however, are assigned as usual.
- Feature key template definitions include only dedicated key assignments on business sets. The templates cannot include DN appearances or features that are assigned to a specific DN appearance.

In addition, the restrictions that apply to individual feature key assignments apply to feature key templates, as follows:

- The features in a template must be compatible with each other. Refer to individual feature descriptions for information on whether the features can coexist.
- The features in a template must be compatible with the set type specified for the template.
- Features that can appear on only one key cannot be duplicated in the same template.
- Features that require an associated lamp can only be assigned to template key positions with key/lamp pairs.

Interactions

The following paragraphs describe the interactions between Access Feature Grouping and other functionalities.

Access Feature Grouping (continued)

Features assigned to lines through feature groups operate the same as features assigned individually. Some basic guidelines follow.

Option compatibility

Compatibility among options assigned to a feature group is enforced as each option is added. Attempts to add an option that is incompatible with existing options are rejected, regardless of whether the feature group has any line assignments. Similarly, attempts to add an option that is incompatible with the group's LCC are rejected.

Compatibility among options assigned through a feature group and options assigned individually to lines is enforced the same. SERVORD rejects feature group assignments to lines with nongroup options that are incompatible with those included in the feature group. Similarly, SERVORD rejects individual option assignments to lines with feature group options that are incompatible with the individual options.

Option incompatibility

Compatibility among options in a feature group and options assigned individually to lines that have that feature group is not enforced as long as all the features are fully supported. It is therefore possible to assign incompatible options to a line. The result of such an assignment is unpredictable. In some cases, neither option is affected. In other cases, one of the two options is disabled. Since it cannot be predicted whether the group or the individual option will take precedence, avoid adding options to lines with feature groups after they are assigned.

Defining feature key templates

All feature keys assigned through a feature key template appear in table KSETFEAT. However, feature key templates have no impact on internal line data structures.

Individual feature keys can be assigned in the same SERVORD command as a feature key template, provided the individual key positions are unassigned. Unassigned keys are marked as blank (BLK) in the template.

Feature groups and feature key templates can be assigned to the same line, but any feature group-supported options assigned to dedicated keys must be included in the feature group.

Activation/deactivation by the end user

Features assigned to a line through feature groups are activated and deactivated the same as features assigned separately. The features are assigned to groups through datafill. Groups are assigned to lines through SERVORD.

Options CLIDSP, CDC, PFCNTL, and PFDSP are activated through datafill. Subscribers activate the partitioned table editor, giving the name of the feature group parameter they want to view or modify. Subscribers invoke PF applications the same as if they were assigned outside a feature group.

Feature key templates are assigned to business sets through SERVORD. All features defined for key access through feature groups are activated in the same way as keys assigned individually to business sets.

Billing

Access Feature Grouping does not affect billing.

Station Message Detail Recording

Access Feature Grouping does not affect Station Message Detail Recording.

Datafilling office parameters

Access Feature Grouping does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement Access Feature Grouping. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Access Feature Grouping (Sheet 1 of 2)

Table	Purpose of table
FTRGDEFS	Feature Group Definitions. This table is used to specify the group characteristics of each feature group.
FTRGOPTS	Feature Group Options. This table is used to assign line options to all feature groups defined in an office. This table is also used to specify the characteristics of individual feature group options.
FTRGMEMS (Note)	Feature Group Members. This table lists the feature group members.
IBNLINES (Note)	IBN Line Assignment. This table lists the Integrated Business Network line assignments.
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.	

Access Feature Grouping (continued)

Datafill tables required for Access Feature Grouping (Sheet 2 of 2)

Table	Purpose of table
KSETKEYS	Business Set Feature Keys. This table defines feature key templates that assign features to dedicated keys on a variety of business sets.
KSETLINES (Note)	Business Set and Data Unit Line Assignment. This table contains the DN appearances for business sets and data units. One entry is required for each DN-related key on a business set and a data unit.
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.	

Datafilling table FTRGDEFS

Table FTRGDEFS (Feature Group Definitions) is used by the operating company to package residential and business line features into logical groupings that are assigned as a single option to any number of lines using a single SERVORD prompt. Table FTRGDEFS is used to define the group characteristics of each feature group.

Table FTRGDEFS must be datafilled before table CUSTHEAD (Customer Group Head), table FTRGOPTS, and table FTRGMEMS. The maximum size of this table is 8191 tuples.

The following table shows the datafill specific to Access Feature Grouping for table FTRGDEFS. Only those fields that apply directly to Access Feature Grouping are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table FTRGDEFS (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
FTRGRP		alphanumeric (up to 16 characters)	Feature group name. Enter the feature group name defined by the operating company.
GRPTYPE		FTRGRP or SVCGRP	Group type. Enter FTRGRP for feature group or SVCGRP for service group.
FTRGVAR		see subfield	Feature group variable area. This field consists of subfield CLASS.

Access Feature Grouping (continued)

Datafilling table FTRGDEFS (Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	CLASS	DATA, IBN, ISDN, MBS, or RES	Class of station. This subfield specifies the station class (or terminal class) to which the feature group can be assigned. Enter DATA, IBN, ISDN, MBS, or RES. If the entry in subfield CLASS is RES, go to field NUMLINES. If the entry in subfield CLASS is anything other than RES, datafill refinement OWNERSHIP.
	OWNERSHIP	see subfield	Feature group ownership. This subfield consists of subfield SCOPE.
	SCOPE	PUB or PRIV	Feature group scope. This subfield specifies the scope of the feature group. Enter PUB for a public feature group or PRIV for a private feature group. If the entry in subfield SCOPE is set to PRIV, datafill refinement CUSTGRP.
	CUSTGRP	alphanumeric (up to 16 characters)	Customer group. This subfield specifies the customer group that owns the private feature group. Enter the customer group name.
NUMLINES		0 -32 767	Number of lines. This field specifies the number of lines that are currently associated with the feature group. This field is read-only, so it cannot be modified by the operating company. Enter 0 (zero) when datafilling. Any entry outside the range indicated for this field in invalid.
OPTIONS		see subfield	Options. This field consists of subfield OPTION.

Access Feature Grouping (continued)

Datafilling table FTRGDEFS (Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
	OPTION	CDC or MAXLINE (up to 2 options)	Option list. This subfield specifies the group options. If only one option is required, enter $ to end the tuple. Enter CDC for the customer data change option (applicable to public feature groups only). No further datafill is required for table FTRGDEFS. Enter MAXLINE to limit the total number of lines that can be associated with a feature group, and datafill refinement MAXLINES.
	MAXLINES	0 to 32 767	Maximum number of lines. Enter the total number of lines that can be associated with a feature group.

Station classes, LCCs, and software packages

Each feature group must be associated with a specific station class. The station class with which a particular feature group applies is indicated in subfield CLASS of table FTRGDEFS. Each station class corresponds to one or more LCCs. Each station class also requires that a specific software package be available in an office for feature groups to be defined for the class. The following table lists the feature group station classes and their corresponding LCCs and software packages.

Feature group station classes and required LCCs and software packages

Class	Description	Line class codes	Package
RES	Residential line	1FR, 1MR, RES	NTXA64AA
IBN	Integrated Business Network (500/2500)	IBN	NTX100AA
MBS	Meridian business set (500/2500)	M2008, M2009, M2016S, M2018, M2112, M2216A, M2216B, M2317, M2616, M3000, M5009, M5112, M5209, M5312, PSET	NTX106AA
DATA	Data line	DATA, MADO, MPDA	NTX106AA
ISDN	Integrated services digital network	ISDNKSET (BRAFS)	NTX750AB

Datafill example for table FTRGDEFS

The following example shows sample datafill for table FTRGDEFS.

MAP display example for table FTRGDEFS

```
FTRGRP      GRPTYPE     FTRGVAR     NUMLINES    OPTIONS
AFGPUB      FTRGRP      MBS PUB       0 CDC MAXLINE 5 $
AFGPRIV     FTRGRP      MBS PRIV    CUSTGRP1    0   $
SVCGPUB     SVCGRP      MBS PUB       0  MAXLINE    7 $
SVCGPRIV    SVCGRP      MBS PRIV    CUSTGRP2    0   $
```

Datafilling table FTRGOPTS

Table FTRGOPTS (Feature Group Options) is used to assign line options to all feature groups defined in an office. This table is also used to specify the characteristics of individual feature group options. Table FTRGOPTS must be datafilled before table FTRGMEMS. The following information applies to options that do not require additional data.

The following tables shows the datafill specific to Access Feature Grouping for table FTRGOPTS. Only those fields that apply directly to Access Feature Grouping are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table FTRGOPTS for options without additional data

Options that do not require additional data can be assigned to a feature group in a single tuple. The following options can be assigned with a single tuple:

- AUD
- BLF
- CCV
- CCW
- CHD
- CTW
- CWD
- CWI
- CWO
- CWR

Access Feature Grouping (continued)

- CWT
- CWX
- DCBI
- DCBX
- DCF
- DCPK
- DCPU
- DCPX
- EMW
- HLD
- INSPECT
- LNR
- LVM
- MSB
- MSBI
- PCWT
- PFDSP
- PRK
- QTD
- RAG
- SL
- SMDR
- 3WC

Access Feature Grouping (continued)

Note: The following datafill relates to options that do not require additional data.

Datafilling table FTRGOPTS for options that do not require additional data

Field	Subfield or refinement	Entry	Explanation and action
FTRGRP		alphanumeric (up to 16 characters)	Feature group name. This field specifies the 1- to 16-character alphanumeric feature group name to which the option is assigned. Enter the feature group name defined by the operating company.
OPTION		OPTS	Feature group option. This field specifies that several options are to be assigned in this tuple. Enter OPTS.
OPTVAR		see subfields	Option variable area. This field consists of subfields OPTION and OPTLIST.
	OPTION	OPTS	Option. This subfield specifies that several options are to be assigned in this tuple. Enter OPTS.
	OPTLIST	alphanumeric (up to 36 entries)	Option list. This subfield specifies up to 36 options. Enter the list of options.

Datafill example for table FTRGOPTS for options without additional data

The following example shows sample datafill for table FTRGOPTS for options that do not require additional data.

MAP display example for table FTRGOPTS for options without additional data

```
FTRGRP          OPTION      OPTION              OPTVAR
_______________________________________________________

MDC05IBN         OPTS       OPTS
                                        (  RAG)  (  SMDR)
```

Datafilling table FTRGOPTS for options with additional data

Table FTRGOPTS (Feature Group Options) is used to assign line options to all feature groups defined in an office. This table is also used to specify the characteristics of individual feature group options. Table FTRGOPTS must be

Access Feature Grouping (continued)

datafilled before table FTRGMEMS. The following information applies to options that require additional data.

These feature group options require additional data; therefore, they must be specified in separate tuples. These tuples contain extra fields in which the additional information required to define the option's characteristics can be specified.

Datafilling table FTRGOPTS for options that require additional data

Field	Subfield or refinement	Entry	Explanation and action
FTRGRP		alphanumeric (up to 16 characters)	Feature group name. This field specifies the 1- to 16-character alphanumeric feature group name to which the option is assigned. Enter the feature group name defined by the operating company.
OPTION		alphanumeric	Feature group option. This field specifies the feature group option to be assigned in this tuple. Enter the feature group option. OPTS is a valid feature group option.
OPTVAR		see subfield	Option variable area. This field consists of subfield OPTION.
	OPTION	alphanumeric	Option. This subfield specifies the option to be assigned in this tuple. Enter the option.
Note: Depending on the option being assigned, enter the appropriate data in the subfields generated. Refer to the following table for a list of subfields associated with each option and for the valid input for each subfield.			

Conditional datafill

The following table lists, for each option, the subfields that require datafill and the valid input for each subfield.

Option subfields for table FTRGOPTS (Sheet 1 of 4)

Option entered in subfield OPTION	Subfields generated	Valid input
ACB	BILLING	AMA, NOAMA
AR	BILLING	AMA, NOAMA
AUTODISP	CWT	Y, N

Access Feature Grouping (continued)

Option subfields for table FTRGOPTS (Sheet 2 of 4)

Option entered in subfield OPTION	Subfields generated	Valid input
CFB	CFBOPTS	CBE, CBI, CBU, IECFB (select up to two values)
CFBL	SCRNCL	Screening class from table SCRNCLS (alphanumeric)
	NUMCALLS	1 to 1024 (calls)
	TIME	12 to 60 (seconds)
CFDVT	TIMEVAL	12 to 60 (seconds)
CFI	None	Not applicable
CFK	None	Not applicable
CFS	SIMVAR	This subfield consists of subfield SIMULT. If SIMULT is set to Y, subfields NCFUIF, NCFB, and NCFD require datafill. The subfields and their values are as follows: • SIMULT: Y, N • NCFUIF: 1 to 1024 (calls) • NCFB: 1 to 1024 (calls) • NCFD: 1 to 1024 (calls)
	SCRVAR	This subfield consists of subfield SCREEN. If SCREEN is set to Y, subfield CFXNCOS requires datafill. The subfields and their values are as follows: • SCREEN: Y, N • CFXNCOS: 0 to 511 (NCOS number)
CFU	OVRDACR	Y, N
CFW	SCRNCL	Screening class from table SCRNCLS (alphanumeric)
	NUMCALLS	1 to 1024 (calls)

Access Feature Grouping (continued)

Option subfields for table FTRGOPTS (Sheet 3 of 4)

Option entered in subfield OPTION	Subfields generated	Valid input
CLIDSP	DISPFMT	STD, OPT, ENH, FULL
CNAMD	BILLING	AMA, NOAMA
CND	BILLING	AMA, NOAMA
CNDB	BILLING	AMA, NOAMA
CNF	CONFTYPE	C06, C10, C14, C18, C22, C26, C30
COT	BILLING	AMA, NOAMA
CXR	CXFERVAR	This subfield consists of subfield CXFERTYP. If CXFERTYP is set to CUSTOM, subfields ORGINTER, ORGINTRA, TRMINTER, and TRMINTRA require datafill. The subfields and their values are as follows: • CXFERTYP: NCT, ATTRCLF, CTINC, CTOUT, CUSTOM • ORGINTER: AC, INTRA, INTER, TRATER, NOCXFER • ORGINTRA: AC, INTRA, INTER, TRATER, NOCXFER • TRMINTER: AC, INTRA, INTER, TRATER, NOCXFER • TRMINTRA: AC, INTRA, INTER, TRATER, NOCXFER
	CXFERRCL	This subfield consists of subfield CXRRCL. If CXRRCL is set to Y, subfield RLCTIM requires datafill. The subfields and their values are as follows: • CXRRCL: Y, N • RLCTIM: 12 to 120 (seconds)
	METHOD	STD, RLS,DIAL
DDN	BILLING	AMA, NOAMA

Option subfields for table FTRGOPTS (Sheet 4 of 4)

Option entered in subfield OPTION	Subfields generated	Valid input
MWT	NOTICE	MWL, STD, CMWI, PRN
	CAR	Y, N (If Y, subfield CRRCFW requires datafill.)
	CRRCFW	NO, ALL, DISPLAY
	CRX	Y, N
OLS	OLSOPT	IDLE, NOSELECT
PF	PFOPT	USER, LANG, PSWD, LOCK If PFOPT is set to USER, subfield USER requires datafill. If PFOPT is set to LANG, subfield LANGUAGE requires datafill. If PFOPT is set to PSWD, subfield PASSWORD requires datafill. The subfields and their values are as follows: • USER: GENERAL, ADMIN • LANGUAGE: ENGLISH, FRENCH • PASSWORD: 3 to 6 digits • LOOPCON: Y, N • SPLITKEY: OCT, STAR

Datafill example for table FTRGOPTS for options with additional data

The following example shows sample datafill for table FTRGOPTS for options that require additional data.

MAP display example for table FTRGOPTS for options with additional data

```
FTRGRP          OPTION    OPTION                 OPTVAR
_______________________________________________________

BNRAFG1         NAMEDSP   NAMEDSP                ONNET
BNRAFG1         CLID      CLID               Y   OFFNET
```

Access Feature Grouping (continued)

Datafilling table KSETKEYS

Table KSETKEYS (Business Set and Data Unit Keys) defines feature key templates that assign features to dedicated keys on a variety of business sets using SERVORD. The maximum size of table KSETKEYS is 512 tuples.

The following table shows the datafill specific to Access Feature Grouping for table KSETKEYS. Only those fields that apply directly to Access Feature Grouping are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table KSETKEYS (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
TEMPLATE		1- to 16-alphanumeric	Template name. This field specifies the 1- to 16-character alphanumeric name that identifies a particular feature key template. Enter the template name defined by the operating company.
SETINFO		see subfield	Business set info. This field consists of subfield SETTYPE.
	SETTYPE	alphanumeric	Type of business set. This subfield specifies the type of business set for which the template can be used. Enter one of the set types listed in table “Set types for business sets and add-on modules." If SETTYPE is set to ACDSUPER or ACDAGENT, subfield ACDINFO requires datafill.
	ACDINFO	see subfield	ACD information. This subfield consists of subfield ACDSTYPE.
	ACDSTYPE	alphanumeric	Type of ACD business set. This subfield specifies the type of ACD business set for which the template can be used. Enter the type of ACD business set. If ACDSTYPE is set to ADDON, BRAFS, BRAMFT, M518, M522, M536, M3000, or M0022, subfield KEYNUM requires datafill.

Access Feature Grouping (continued)

Datafilling table KSETKEYS (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	KEYNUM	1 to 69	Starting key number. This subfield specifies the key number that is associated with the first feature that is specified in field FEATLIST. All subsequent features appearing in the list are assigned to consecutive key numbers following this one. Enter a value from 1 to 69. The following list shows the valid input for field KEYNUM for set types ADDON, BRAFS, M518, M522, M536, M0022, and M3000. For all other types of business sets, the starting key number is key 2. • ADDON: 10, 30, 50 • BRAFS: 2, 34 • M518: 12, 30, 48 • M522: 15, 37 • M536: 30 • M0022: 17, 39 • M3000: 7
	FEATLIST	alphanumeric	Feature list. This field specifies the business set features that define the feature key layout or template. List the features for each key in the template, starting with feature key 2 (the default) or with the key number in subfield KEYNUM. The number of features that can be assigned is limited by the set type. Refer to table “Set types for business sets and add-on modules." Table “Feature key template options" in this feature description shows the feature acronyms that can be included in this field. To skip a key, enter BLK, which assigns a blank feature to a key. Other features can then be independently assigned to the key. See “Limitations and restrictions (feature key templates)" in this feature description for a summary of the limitations that apply to feature key assignments.

Access Feature Grouping (continued)

Set type values

The values for field SETTYPE in table KSETKEYS are listed in the following table. In addition, the table shows the business set or add-on module and the number of feature keys that can be assigned options.

Set types for business sets and add-on modules

Set type	Business set or add-on module	Number of feature keys
ADDON	ADDON (20-key PSET add-on)	20
BRAFS	ISDNKSET (BRAFS only)	64
BRAMFT	ISDNKSET (BRAMFT only)	64
DATA	DATA	7
M518	M518	18
M522	M522	22
M536	M536	36
M0022	M0022	22
M2008	M2008	7
M2009	M2009	8
M2018	M2018	17
M2112	M2112	10
M2317	M2317	19
M2616	M2616, M2016S, M2216A, M2216B	15
M3000	M3000	13
M5209	PSET, DISP, M5009, M5209	8
M5212	ACD set	11
M5312	M5112, M5312	9
MADO	MADO	6
MPDA	MPDA	6

Datafill example for table KSETKEYS

The following example shows sample datafill for table KSETKEYS.

MAP display example for table KSETKEYS

```
TEMPLATE    SETINFO             FEATLIST
------------------------------------------------------------
MBSBASIC    M5209               (BLK) (3WC) (CFX) (CWT)
                                (RAG) (SCS)  (PRK) (CPU) $

MBS518SECR  M518       30       (3WC)  (BLK)  (RAG)  (BLK)
                                (SCS)  (CFX)  (AUD)  (AUD)
                                (AUD)  (AUD)  (AUD)  (AUD)
                                (AUD)  (AUD)  (AUD)  (AUD)
                                (INSPECT)  (QTD)  $
```

Translation verification tools

Access Feature Grouping does not use translation verification tools.

SERVORD

Option FTRGRP is used to assign a number of options, packaged in a feature group, to a line. This option can be specified following the OPTION prompt in the NEW (establish service), ADO (add option), DEO (delete option), and CHF (change feature information for preexisting feature) commands. The assignment of feature groups to lines is represented in table FTRGMEMS.

Option FTRGRP is compatible with the following LCCs:

- 1FR
- 1MR
- DATA
- IBN
- ISDNKSET
- M2008
- M2009
- M2016S
- M2018
- M2112

Access Feature Grouping (continued)

- M2216A
- M2216B
- M2317
- M2616
- M3000
- M5009
- M5112
- M5209
- M5312
- MADO
- MPDA
- PSET
- RES

SERVORD limitations and restrictions

The following SERVORD limitations and restrictions apply to Access Feature Grouping:

- Only one feature group can be assigned to a line at any one time. Additionally, only one service group can be assigned to a line at any one time. A single feature group and a single service group can be simultaneously assigned to a single line.
- Options that are not supported by feature groups are unaffected. They can be assigned to a line associated with a feature group, and, conversely, feature groups can be assigned to lines with existing nongroup options.
- The following options can be activated only through dedicated keys:
  - AUD
  - BLF
  - CCV
  - CWT
  - CXR
  - EMW
  - INSPECT
  - LVM
  - MWT

— QTD

— RAG

— 3WC

If the option is included in a feature group that is assigned to the line, then additional information about the option must match exactly that specified in the feature group definition. All other business set options can be activated through a dedicated key or an access code.

- There are two ways to remove a feature group option from a line: the option can be removed from the feature group, thereby removing it from all lines associated with the group, or the feature group can be removed from the line.

Note: Operating companies can assign feature groups to lines in bulk through the DMO facility. Refer to *SERVORD Reference Manual* for more information on using the DMO facility.

SERVORD prompts

The following table shows the SERVORD prompts used to add Access Feature Grouping to an IBN line using the NEW command.

Note: Tables FTRGMEMS, IBNLINES, and KSETLINE are automatically datafilled when a feature group is assigned using SERVORD.

SERVORD prompts for Access Feature Grouping (Sheet 1 of 2)

Prompt	Valid input	Explanation
DN_OR_LEN	7-digit DN or LEN	Specifies the 7-digit DN or LEN of the line to be changed
GROUP	up to 8 alphanumeric characters, beginning with an alphabetic character	Identifies the customer group for this ACD group. Used with the IBN LCC, it is the CLLI of an IBN customer group.
GRPNAME	any feature group name defined in table FTRGDEFS (up to 16 alphanumeric characters). The GRPTYPE of the feature group in table FTRGDEFS must correspond to the value specified in the option field.	Indicates the name of the feature group or service group comprised of one or more features
LATANAME	alphanumeric	Indicates the calling local access and transport area name associated with the originator of the call

Access Feature Grouping (continued)

SERVORD prompts for Access Feature Grouping (Sheet 2 of 2)

Prompt	Valid input	Explanation
LCC	Refer to the table “Feature group station classes and required LCCs and software packages" for a list of valid LCCs.	Indicates the line class code of the service to be established, modified, or deleted
LEN_OR_LTID	valid input format: <site> ff u dd ccwhere: • <site> is the site name, defaults to HOST (4 alphanumeric characters) • ff is the frame number (0-9) • u is the unit (0-19) • dd is the drawer number of the line subgroup (0-19) • cc is the line circuit number (0-31)	Indicates the LEN or logical terminal identifier of the DN to be changed
LTG	0-511	Indicates the line treatment group member. Used to calculate the line attribute index when the DN and LCC are insufficient to find an appropriate index. LTG is prompted for in conjunction with LCC. If office parms are on, the prompt appears. If not, the prompt does not appear.
NCOS	0-511	Indicates the network class of service for IBN lines, trunks, or attendant consoles; defines a set of capabilities or restrictions that allow or deny calls
OPTION	FTRGRP or SVCGRP	Indicates the name of the option
SNPA	three digits	Indicates the service numbering plan area (area code)
SUBGRP	0-7	Indicates the subgroup number of a customer group to which a station or DN belongs

SERVORD example for adding Access Feature Grouping

The following SERVORD example shows how Access Feature Grouping is added to a new line using the NEW command. Both a feature group and a service group are added to the new line.

Access Feature Grouping (continued)

SERVORD example for adding a feature group and a service group to a new IBN line in prompt mode

```
SO:
> NEW
SONUMBER: NOW 89 8 2 PM
>
DN:
> 7224998
LCC:
> IBN
GROUP:
> BNRGRP1
SUBGRP:
> 0
NCOS:
> 0
SNPA:
> 613
LATANAME:
>NILLATA
LTG:
> 0
LEN_OR_LTID:
>HOST 0 0 3 16
OPTION:
>FTRGRP
GRPNAME:
> BNR05IBN
OPTION:
> SVCGRP
GRPNAME:
> MBSVCGP1
OPTION:
> $
```

SERVORD example for adding a feature group and a service group to a new line in no-prompt mode

```
>NEW $ 7224998 IBN BNRGRP1 0 0 613 NILLATA 0 HOST 0 0 3 16
FTRGRP BNR05IBN SVCGRP MBSVCGP1 $
```

The following service order example shows how a feature group is added to an existing line using the ADO command. In the following example, feature group BNR14MBS is assigned to an existing business set line.

Access Feature Grouping (continued)

SERVORD example for adding a feature group to an existing business set line in prompt mode

```
>
SO:
> ADO
SONUMBER: NOW 89 8 2 PM
>
DN_OR_LEN:
>HOST 00 0 01 21
OPTION:
>FTRGRP
GRPNAME:
> BNR14MBS
OPTION:
> $
```

SERVORD example for adding a feature group to an existing business set line in no-prompt mode

```
>ADO $ HOST 00 0 01 21 FTRGRP BNR14MBS $
```

SERVORD example for changing Access Feature Grouping

The following SERVORD example shows how a specific feature group is changed to the default feature group using the CHF command. In this example, feature group BNR05IBN is replaced with the DEFAULT feature group. The DEFAULT feature group is used to retain all feature group options assigned to a line while removing the associated feature group from the line.

SERVORD example for changing a feature group in prompt mode

```
>
SO:
> CHF
SONUMBER: NOW 89 8 2 PM
>
DN_OR_LEN:
>HOST 00 0 03 16
OPTION:
>FTRGRP
GRPNAME:
>DEFAULT
OPTION:
> $
```

SERVORD example for changing a feature group in no-prompt mode

```
>CHF $ HOST 00 0 03 16 FTRGRP DEFAULT $
```

SERVORD for defining feature key templates

Option FTRKEYS is used to define the feature keys on a business set using predefined feature key templates. This option can be specified following the OPTION prompt in either the NEW or the ADO command.

Option FTRKEYS is compatible with the following LCCs:

- DATA
- ISDNKSET
- M2008
- M2009
- M2016S
- M2018
- M2112
- M2137
- M2216A
- M2216B
- M2616
- M3000
- M5009
- M5112
- M5209
- M5312
- MADO
- MPDA
- PSET

Access Feature Grouping (continued)

The following table shows the SERVORD prompts used to assign feature key templates to a business set or add-on unit.

SERVORD prompts for assigning feature key templates (Sheet 1 of 2)

Prompt	Valid input	Explanation
DN	7 or 10 digits entered with no spaces or hyphens	Identifies the directory number associated with the service that is to be established, modified, or deleted
	Y or N	Indicates use as a prompt with the SUPPRESS option, where Y suppresses delivery of the originating DN, and N allows delivery of the originating DN
	ACD DN	Specifies an automatic call distribution DN (appears if FOBSTYPE = DN)
GROUP	up to 8 alphanumeric characters, beginning with an alphabetic character	Identifies the customer group for this ACD group. Used with the IBN LCC, it is the CLLI of an IBN customer group.
KEY	1-1023	Specifies the line hunt overflow route index that identifies the overflow route
LCC	Refer to the table “Feature group station classes and required LCCs and software packages" for a list of valid LCCs.	Indicates the line class code of the service to be established, modified, or deleted
LEN_OR_LTID	valid input format: <site> ff u dd ccwhere: • <site> is the site name, defaults to HOST (4 alphanumeric characters) • ff is the frame number (0-9) • u is the unit (0-19) • dd is the drawer number of the line subgroup (0-19) • cc is the line circuit number (0-31)	Indicates the LEN or logical terminal identifier of the DN to be changed

Access Feature Grouping (continued)

SERVORD prompts for assigning feature key templates (Sheet 2 of 2)

Prompt	Valid input	Explanation
LTG	0-511	Indicates the line treatment group member. Used to calculate the line attribute index when the DN and LCC are insufficient to find an appropriate index. LTG is prompted for in conjunction with LCC. If office parms are on, the prompt appears. If not, the prompt does not appear.
NCOS	0-511	Indicates the network class of service for IBN lines, trunks, or attendant consoles; defines a set of capabilities or restrictions that allow or deny calls
OPTION	FTRKEYS	Specifies the option to be added to the line. Enter FTRKEYS.
OPTKEY	1 to 69	Indicates the key on an MBS to which an option is assigned
RINGING	Y or N	Specifies whether a key on the business set will be assigned ringing ability
SNPA	3 digits	Indicates the service numbering plan area (area code)
SUBGRP	0-7	Indicates the subgroup number of a customer group to which a station or DN belongs
TEMPLATE	A feature key template name defined in table KSETKEYS	Specifies the feature key template to be used for assigning the business set's feature keys. Enter up to 4 feature key template names defined in table KSETKEYS.

SERVORD allows the following assignment of templates to sets:

- Different templates with the same SETTYPE and KEYNUM values can be assigned to one set in a service order. SERVORD checks each template independently as it is assigned. If individual key assignments do not overlap and all the options in both templates are compatible, two templates

Access Feature Grouping (continued)

for the same set of keys can be assigned to a set. Otherwise, the second template is rejected.

- M518 templates can be assigned to an M536 add-on unit, because the KEYNUM values for M518 templates (30 and 48) cover the same range of keys as the M536.
- BRAFS templates can be assigned to an ISDN terminal if the terminal supports enough feature keys to accommodate those included in the template. The maximum number of keys for an ISDN terminal is specified in field FANUM of table KSETINV (Business Set and Data Unit Inventory).

SERVORD example for adding feature key templates to an MBS

The following SERVORD example shows how feature key templates are added to a business set using the NEW command. In the following example, a new M5009 business set is created, and its feature keys are assigned using feature key template MBSBASIC.

Access Feature Grouping (end)

SERVORD example for adding feature key templates to an MBS in prompt mode

```
SO:
> NEW
SONUMBER: NOW 89 12 10 AM
>
DN:
> 7654734
LCC:
> M5009
GROUP:
> BNRGRP1
SUBGRP:
> 0
NCOS:
> 0
SNPA:
> 613
KEY:
> 1
RINGING:
> Y
LTG
> 0
LEN_OR_LTID:
> HOST 00 0 00 21
OPTKEY:
> 1
OPTION:
> FTRKEYS
TEMPLATE:
> MBSBASIC
TEMPLATE:
> $
OPTKEY:
> $
```

SERVORD example for adding feature key templates to an MBS in no-prompt mode

```
> NEW $ 7654734 M5009 BNRGRP1 0 0 613 1 Y 0 HOST 00 0 00 21 1
FTRKEYS MBSBASIC $ $
```

Copy Feature Set Enhancement

Ordering codes

Functional group ordering code: MDC00014

Functionality ordering code: not applicable

Release applicability

DMS100C03 and up

Prerequisites

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

Description

The MDC Copy Feature Set feature introduced the SETMODEL option, which allows the operating company to associate an existing line equipment number (LEN) with a model name (MODNAME). The SETMODEL option is datafilled through SERVORD by the NEW (establish service) or ADO (add option) commands. The SETMODEL option must be assigned to key 1 when assigning the option to a business set.

Copy Feature Set Enhancement is an enhancement to the MDC Copy Feature Set feature. With the Copy Feature Set Enhancement feature, operating companies can easily provision their offices with the COPYSET SERVORD command. The COPYSET command now allows the operating companies to datafill up to 100 lines with the same basic datafill, including the same line class code (LCC) customer group, subgroup, network class of service (NCOS), serving numbering plan area (SNPA), local access and transport area (LATA) and line treatment group (LTG) as the primary directory number (DN) assigned the SETMODEL option. If the model set is a non-keyset, all options attempt to copy through COPYSET. Otherwise, the options associated with DN key 1, the set options, the key features, and the subset features on a business set attempt to copy over to the new lines.

Operation

The operating company selects an existing LEN that is datafilled to serve as a model for other LENs through the SETMODEL option. The operating company can then provision other lines like the designated model set through the COPYSET command.

The SETMODEL option can be assigned when a new line is being established using the NEW command, or afterwards using the ADO command. After the

Copy Feature Set Enhancement (continued)

technician specifies the SETMODEL option, SERVORD prompts for the name that is assigned to the model, MODNAME.

The MODNAME can be up to 32 characters in length and is displayed in alphabetical order by the QMODEL command; it is a good idea to use very descriptive names that group MODNAMES in a logical fashion. For instance, the set type could be indicated by the first few characters of the MODNAME followed by the type of function the set provides.

Following is an example of using the QMODEL command to query all models.

QMODEL command (all model names)

```
> QMODEL
The following SETMODELs are currently defined:
Model name:     LEN:
COPYSETRES      HOST 00 0 00 04
M5209SET        HOST 00 1 19 09
PPHNPSET        HOST 00 0 18 05
```

Following is an example of using the QMODEL command to query one model name.

QMODEL command (one model name)

```
> QMODEL PPHNPSET
The following SETMODELs are currently defined:
Model name:     LEN:
PPHNPSET        HOST 00 0 18 05
```

DN key 1 must be specified when adding the SETMODEL option to a key set. Only the DN options pertaining to key 1 are copied. DN options pertaining to other DNs are not copied. The number of LENs that have the SETMODEL option is limited to 2047. A message is displayed when the number of LENs approaches this limit.

The COPYSET command is used when a new line is being established. This command prompts for up to 100 new DN and LEN pairs (DN_LEN).

Copy Feature Set Enhancement (continued)

Afterwards, the MODNAME prompt appears, at which point the name associated with a SETMODEL option must be specified. Since the LCC is copied over from the SETMODEL, the card code associated with the new sets must be compatible with that LCC. When COPYSET is executed from a non-key set, the set configuration along with the options is copied over to the new DN and LEN pairs.

When the COPYSET command is executed for a keyset, the new DNs, along with the line and DN option information associated with key 1, are added to key 1 of the new lines. All key features, set options, and subset features on the model LEN are added to the new LENs on the same key as the key on the model set. Some of the keylists on the subset features may need to be modified if the model LEN contains multiple DNs and some options that do not include key 1 on their keylists are not copied over.

Following is an example of the QLEN (query len) command of one line created using the COPYSET command.

QLEN command of a line created with the COPYSET command

```
> QLEN  0 0 0 6

LEN: HOST 00 0 00 06
TYPE: SINGLE PARTY LINE
SNPA: 919
DIRECTORY NUMBER: 6215000
LINE CLASS CODE: PSET (WITH DISPLAY)
CUSTGRP: MDCGRPA SUBGRP:0 NCOS:0 RING:Y
ADDONS:NONE EXTENSION:Y RING:N
CARDCODE:6X21AC GND:N PADGRP:PPHONE BNV:NL MNO:Y
PM NODE NUMBER 16
PM TERMINAL NUMBER: 113
OPTIONS:
RAG PRK CXR CTALL N STD
CWT Y Y N $
KEY DN
1 DN 6215000
KEY FEATURE
3 CXR CTALL
4 CWT Y Y N $
5 PRK
6 RAG
```

The checking and updating messages display for each DN and LEN pairs following the COPYSET command. An exception report with the DN and LEN pairs which fail to match the model's datafill displays following the checking and updating phase.

Translations table flow

Copy Feature Set Enhancement does not affect translations table flow.

Limitations and restrictions

The following limitations and restrictions apply to Copy Feature Set Enhancement:

- Each MODNAME used in the SETMODEL option must be unique in the switch. Once the LENs are datafilled using the COPYSET command, they are no longer associated with the models from which they were copied. Therefore, any change to the line with the SETMODEL option has no future effect on these LENs.
- The customer group, LCC, subgroup, NCOS, SNPA, LATA name and LTG, are the same as the model set.
- The number of LENs which can have the SETMODEL option is limited to 2047. The SETMODEL name for 1FR, 1MR, RES, and IBN sets cannot be changed when the internal SETMODEL table is at full capacity.
- COPYSET collects a maximum of 30 options from the model set. Any options over 30 are not copied over.
- Table OPTOPT (Incompatible Options) is changed to make SETMODEL and hunt options, such as DLH, DNH, MLH, MPH and BNN, incompatible.
- An ACD supervisor cannot contain the SETMODEL option. There can only be one ACD supervisor for each subgroup.
- Subset features with a keylist that does not include key 1 are not copied over to the new LEN.
- DN options associated with DN keys other than key 1 are not copied over.
- The COPYSET command is only valid for unassigned DNs.
- The COPYSET command collects the first 30 options off of the model set. Any more options over 30 are not copied over.
- If a LEN is specified in the COPYSET command, the LEN must be hardware assigned/software unassigned (HASU).
- The LCC of the model LEN must be an LCC that is compatible with the line card of the LEN specified in the COPYSET command.

Copy Feature Set Enhancement (continued)

Interactions

The following paragraphs describe the interactions between Copy Feature Set Enhancement and other functionalities.

Advanced Intelligent Network (AIN)

The AIN group (AINGRP) for options AIN and AINDN are the same as the AINGRP of the model set.

Automatic Call Distribution (ACD)

The ACD options, such as Emergency Key (EMK) and Line of Business (LOB) are copied over to the LENs specified in the COPYSET command.

The Answer Agent Key (AAK), Answer Emergency Key (AEK), and Call Supervisor (CLSUP) options are assigned to a DN key other than key 1. These options are not copied over.

Automatic Line (AUL)

The AUL DN is the same as the AUL DN specified on the model set.

Automatic Location Identification (ALI)

The Public Safety Answering Point (PSAP) positions are the same as the PSAP position on the model set.

Bearer Capability (BC)

The BC name for the model set is copied over to the new sets.

Bulk Calling Line Identification (BCLID)

The BCLID number for the model set is copied over to the new sets.

Busy Lamp Field (BLF) and Set Based Busy Lamp Field (SBLF)

The direct station select (DSS) DNs are the same as the DSS DNs on the model set.

Call Forwarding (CF)

The CF DNs of the model set are copied over to the new sets. This also applies to all the various types of CF.

Call Pickup (CPU)

When copying CPU from the model to the new sets using the COPYSET command, the telco is in essence adding members to the CPU grop to which the model set belongs. The recommended size of the CPU group is 75 members and the maximum allowed is 100 members. Therefore, if a CPU group exists with one member in the CPU group, COPYSET will only be able

Copy Feature Set Enhancement (continued)

to add CPU to the first 99 lines. Also, each time COPYSET datafills CPU, the CPU LEN changes to the LEN specified in the COPYSET command if the new LEN is positioned above the current CPU LEN in table LNINV (Line Circuit Inventory).

Carrier Toll Denied (CTD), Primary Intra-LATA Carrier (PIC) , and Intra-LATA PIC (LPIC)

The carrier names for CTD, PIC, and LPIC are the same as the carrier name specified on the model set.

Customer Data Change (CDC)

The CDC owners are the same for the new LENs specified on the model set.

Feature Group (FTRGRP)

The feature group name of the FTRGRP option and the ability to have all options associated with the feature group are copied from the model set to the new sets.

Flexible Automatic Number Identification (FANI)

The digits associated with the FANI option are copied from the model set to the new LENs.

Multiple Appearance Directory Number (MADN)

When a MADN is added with the COPYSET command, one of the prompts indicates if the MADN group member is primary for the MADN group. The COPYSET command would fail if the primary bool and the MADN DN were copied since there can only be one primary appearance for each MADN group.

If the model is a primary MADN group member each new line used in the COPYSET command is primary. If the model line is a non-primary MADN member, the new lines are also non-primary MADN group members.

Multiparty Bridging (MPB)

The DNs identifying the MPB are copied over from the model set.

Name (name displayed)

The name displayed on the model set is the same name displayed on the new LENs.

Network Facility Access (NFA)

The user identification (USER_ID) numbers for the new sets are not the same as USER_ID of the model set; rather, they are the DNs entered in the COPYSET command.

Copy Feature Set Enhancement (continued)

Power Features (PF)

The PF information is the same as the model set.

Query Busy Station (QBS)

The monitored LEN for QBS is copied over to the new LENs.

Quick Conference Key (QCK)

The QCK DN is copied over to the new LENs.

Security (SEC)

The security code specified for the model set is the same security code for the new sets. The SEC option and the security code are displayed. If copying over the SEC option is a problem, the operating company should delete the SEC option from the model set before using the COPYSET command.

Series Completion (SCMP)

The SCMP DN on the model is copied over to the new sets.

Signal Distribution Point (SD) and Scan Point (SC)

The SD points specified in options such as Fire Reporting System Origination and Termination (FRO), Fire Reporting System Termination Only (FRS), Overflow Register (OFR), Remote Meter Pulsing (RMP), and Remote Message Register (RMS), are the same SD points as specified in the model set.

Special Billing (SPB)

The SPB DNs are copied from the SPB DN on the model set.

Speed Calling User (SCU)

Members are added to the speed-calling group when SCU is copied from the model to the new sets using the COPYSET command.

The SC points specified in the options, such as Make Busy Key, (MBK) and Random Make Busy (RMB), are the same as the SC point specified in the model set.

Station Origination Restriction (SOR)

The SOR group is copied from the model to the new sets.

Station Specific Authorization Codes (SSAC)

The authorization codes are copied over to the new sets. These authorization codes are datafilled in table AUTHCDE (Authorization Code) and are displayed when the set with SSAC is queried.

Subscriber List Editing (SLE) options

The options Distinctive Ringing Call Waiting (DRCW), Selective Call Acceptance (SCA), Selective Call Rejection (SCRJ), and Selective Call Forwarding (SCF) are SLE options. Each SLE option prompts for a set of DNs, which results in some kind of restriction depending on the type.

Suppress Line Identification Information (SUPPRESS)

The information associated with the SUPPRESS options is the same as the information on the model set.

Uniform Call Distribution Login (UCDLG)

The UCD group specified for the model set is the same as the UCD group for the new sets.

Warm Line (WML)

The specific DNs to which calls are forwarded when WML expires are the same as the WML DNs on the model set.

Activation/deactivation by the end user

Copy Feature Set Enhancement requires no activation or deactivation by the end user.

Billing

Copy Feature Set Enhancement does not affect billing.

Station Message Detail Recording

Copy Feature Set Enhancement does not affect Station Message Detail Recording.

Datafilling office parameters

Copy Feature Set Enhancement does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement Copy Feature Set Enhancement. The tables are listed in the order in which they are to be datafilled.

Note: These tables are datafilled through SERVORD; therefore, no datafill procedure or example is provided. The specific tables datafilled depends on

Copy Feature Set Enhancement (continued)

the type of set involved. Refer to “SERVORD" for an example of using SERVORD to datafill these tables.

Datafill tables required for Copy Feature Set Enhancement

Table	Purpose of table
LENFEAT	Line Feature. This table contains the line features that are assigned to plain old telephone service (POTS) lines datafilled in table LENLINES.
IBNFEAT	IBN Line Feature. This table assigns features to 500/2500 sets.
RESFEAT	Residential Line Feature. This table contains the assignment of the Custom Local Area Signaling Services (CLASS) features for residential lines.
KSETFEAT	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.
LNINV	Line Circuit Inventory. This table lists the data for each line card slot.
KSETINV	Business Set and Data Unit Inventory. This table contains the station options assigned to each customer group.
DNINV	Directory Number Inventory. This table contains the data for all assigned and unassigned DNs, including the DNs in table DNROUTE.
LENLINES	Line Assignment. This table contains the hardware location and options assigned to a line.
IBNLINES	IBN Line Assignment. This table contains the hardware location for all MDC single lines and attendant-console stations.
KSETLINE	Business Set and Data Unit Line Assignment. This table contains the DN appearances for business sets and DUs. One entry is required for each DN-related key on a business set and or DU.
MDNGRP	Multiple Appearance Directory Number Group. This table contains information associated with each MADN group and each member of a MADN group.
MDNMEM	Multiple Appearance Directory Number Member. This table contains information associated with each member in a MADN group.

Translation verification tools

Copy Feature Set Enhancement does not use translation verification tools.

SERVORD

The SETMODEL option can be assigned either when a new line is being established using the NEW command, or afterwards using the ADO command.

Copy Feature Set Enhancement (continued)

The SETMODEL option must be assigned to key 1 when assigning the option to a keyset.

The COPYSET command provides an alternative to the NEW command. The COPYSET command prompts for up to a maximum of 100 new DN and LEN pairs.

SERVORD limitations and restrictions

The following SERVORD limitations and restrictions apply to Copy Feature Set Enhancement:

- The SETMODEL option must be assigned to key 1 when assigning the option to a keyset.
- The maximum number of LENs assigned the SETMODEL option is 2047.
- The MODNAME associated with the SETMODEL option can be changed at any time using the CHF (change feature information for preexisting feature) command.
- LCCs 1FR, 1MR, IBN, M5009, M5112, M5208, M5209, M5212, M5216 M5312, M5316, PSET, and RES are compatible with SETMODEL option.
- Options DLH, DNH, MLH, MPH, BNN, and SUPR are not compatible with the SETMODEL option.
- Options GIC, ICM, SDN, CFRA, SACB, UCDSD, SMDI, and GIAC have unique data or private identification numbers associated with them. Option KSH cannot be added to a set with only one DN. These options are not copied over. A message listing the options that were not copied over is displayed. Options SUS and PLP are not copied over. To suspend service or plug-up a line, commands SUS and PLP must be used.
- The DN and LEN pair can be entered separately with the COPYSET command in SERVORD. This is done by entering the DN followed by a return at the DN_LEN prompt. SERVORD then prompts for the LEN.

Copy Feature Set Enhancement (continued)

SERVORD prompts

The following table shows the SERVORD prompts used to add Copy Feature Set Enhancement to a keyset.

SERVORD prompts for Copy Feature Set Enhancement

Prompt	Valid input	Explanation
DN_OR_LEN	7-digit DN or LEN	Specifies the 7-digit DN or LEN of the keyset to be added or changed
OPTKEY	1	Indicates the key on a keyset to which an option is assigned
OPTION	SETMODEL	Indicates the name of the option
MODNAME	Any string of up to 32 characters	Specifies the name associated with the SETMODEL option

Note: Tables LENFEAT, IBNFEAT, and KSETFEAT are automatically datafilled when the SETMODEL option is assigned using SERVORD.

SERVORD example for Copy Feature Set Enhancement

The following SERVORD example shows how Copy Feature Set Enhancement is used to add the SETMODEL option to a keyset using the ADO command.

SERVORD example for Copy Feature Set Enhancement in prompt mode

```
> ADO
SONUMBER:  NOW 95 07 01 PM
>
DN_OR_LEN:
> 0 0 0 21
OPTKEY:
> 1
OPTION:
> SETMODEL
MODNAME:
> PPHNPSET
OPTKEY:
> $
```

Copy Feature Set Enhancement (continued)

SERVORD example for Copy Feature Set Enhancement in no-prompt mode

```
> ADO  $  0 0 0 21  1  SETMODEL  PPHNPSET  $
```

SERVORD example for Copy Feature Set Enhancement using the COPYSET command

The following SERVORD example shows how Copy Feature Set Enhancement is used to provision a line using the COPYSET command.

In this example, the COPYSET command is used to datafill LEN 0 0 3 16 with DN 6216000 and LEN 0 0 3 17 with DN 6216001. The customer group, subgroup, NCOS, LATANAME, and LTG associated with the model line whose MODNAME is PPHNPSET are added to these new lines. The DN options associated with key 1, its set options, and its key features are also added to the new lines.

In this example, the model set contains the GIC option and a secondary DN. The GIC option is not transferred to the new set because GIC prompts for a unique GIC member. The SETMODEL is also not copied over, and there is no error message displayed, unlike the other options.

Note: Tables LNINV, KSETINV, DNINV, LENLINES, IBNLINES, KSETLINE, LENFEAT, RESFEAT, IBNFEAT, KSETFEAT, MDNGRP, and MDNMEM are automatically datafilled when provisioning lines using the COPYSET command.

Copy Feature Set Enhancement (end)

SERVORD example Copy Feature Set Enhancement in prompt mode

```
> COPYSET
SONUMBER:  NOW 95 07 01 PM
>
DN_LEN:
> 6216000 0 0 3 16
DN_LEN:
> 6216001 0 0 3 17
DN_LEN:
$
MODNAME:
> PPHNPSET

The model set contains secondary DNs.  Any options
specific to the DNs will not be copied over.

GIC will not be copied to the new sets.
Checking DN 6216000/LEN HOST 00 0 03 16
Checking DN 6216001/LEN HOST 00 0 03 17
Updating DN 6216000/LEN HOST 00 0 03 16
Updating DN 6216001/LEN HOST 00 0 03 17

EXCEPTION REPORT:

All DN/LEN pairs have been datafilled
```

SERVORD example Copy Feature Set Enhancement in no-prompt mode

```
> COPYSET  $  6216000  0 0 3 16 6216001  0 0 3 17 $ PPHNPSET

The model set contains secondary DNs.  Any options
specific to the DNs will not be copied over.

GIC will not be copied to the new sets.
Checking DN 6216000/LEN HOST 00 0 03 16
Checking DN 6216001/LEN HOST 00 0 03 17
Updating DN 6216000/LEN HOST 00 0 03 16
Updating DN 6216001/LEN HOST 00 0 03 17

EXCEPTION REPORT:

All DN/LEN pairs have been datafilled
```

MDC AFG Add Option

Ordering codes

Functional group ordering code: MDC00014

Functionality ordering code: not applicable

Release applicability

NA003 and up

Prerequisites

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

Description

Feature MDC Access Feature Group (AFG) Add Option allows operating companies to add AFG-supported line options to individual lines already associated with an AFG. The list of Power Features (PF) that can be assigned in field PFCNTL of table FTRGOPTS (Feature Group Options) is 33.

Operation

Feature groups and service groups provide a convenient way for operating companies to assign a set of line options, such as Call Forwarding (CF) and Three-Way Calling (3WC), to a group of lines. AFGs save time and effort and provide a simple mechanism for managing sets of options assigned to groups of lines.

An AFG containing many options can be created and then assigned to many lines. An AFG line member may be removed from an AFG by the operating company. The operating company retains the associated options by using the Service Order System (SERVORD) CHF (change feature) command and changing the AFG name to DEFAULT. The AFG association is removed from the line and the options associated with the particular line remain intact.

Add option

The ADO (Add Option) command allows operating companies to assign AFG-supported line options to lines that are currently members of AFGs, without altering the AFGs or impacting other lines that may also be assigned to the same AFG. New AFGs can be created through modification of table FTRGDEFS (Feature Group Definitions).

MDC AFG Add Option (continued)

Adding an AFG-supported option to a line

Feature MDC AFG Add Option allows the operating company to add AFG-supported options to individual lines that are members of AFGs. AFG options may be associated with lines both individually and through AFGs.

Adding a line to a feature group

When a line has AFG-supported options such as Call Pickup (CPU), Call Park (PRK), Distinctive Ringing (DRING), and Automatic Answer Back (AAB), and the AFG to which the line is being assigned includes only some of the options such as CPU and DRING, the line is assigned to the AFG. Options CPU and DRING become associated with the line by means of the AFG. The line-specific association of option CPU is removed, though options PRK and AAB continue to be individually associated with the line.

Adding an AFG-supported option to a feature group through table FTRGOPTS

When a line in the feature group already has the option assigned and the AFG-supported option is added to the feature group, the line-specific assignment of the option is dropped. The line does not lose the option, but the option is associated only with the AFG and is not associated specifically with the line.

> ***Note:*** Any addition of options to an AFG (through modification of table FTRGOPTS) while lines are associated with the AFG that is being modified may take a significant amount of time to process. Processing time is directly proportional to the number of lines assigned to the AFG.

Example table entries and QDN output

The following example table entries and QDN (Query Directory Number) command output apply to adding a line to an AFG when the line already has AFG-supported options assigned.

The assumptions in these examples are the following: the line has 3WC assigned, and the line is then assigned to feature group GROUP1 (which has 3WC and CXR).

The results are the following: the line association to option 3WC is removed, and the line retains 3WC by association with feature group GROUP1.

MDC AFG Add Option (continued)

Table IBNLINES (IBN Line Assignment) indicates a line (DN 6212061) that has the 3WC option assigned. A sample tuple entry from table IBNLINES follows.

IBNLINES

LEN	DNNO	RESULT
HOST 00 0 18 10	0	DT STN IBN 6212061 IBNTST 0 0 613 (3WC) $

The output from the QDN command for the above line is displayed.

MAP display example for QDN command

```
qdn 6212061
_____________________________________________________________
DN:  6212061
TYPE:  SINGLE PARTY LINE
SNPA:  613 SIG: DT LNATTIDX: N/A
LINE EQUIPMENT NUMBER:  HOST 00 0 18 10
LINE CLASS CODE:  IBN
IBN TYPE:  STATION
CUSTGRP:  IBNTST SUBGRP: 0 NCOS: 0
CARDCODE:  6X17AA GND: N PADGRP: STDLN BNV: NL MNO: N
PM NODE NUMBER:  39
PM TERMINAL NUMBER: 587
OPTIONS 3WC
```

The DN 6212061 is assigned to the AFG GROUP1 by adding the line equipment number (LEN) (HOST 00 0 18 10) to table FTRGMEMS (Feature Group Members).

Following is the tuple entry for table FTRGDEFS.

FTRGDEFS

FTRGRP	GRPTYPE	FTRGVAR	NUMLINES	OPTIONS
GROUP1	FTRGRP	MBS PUB	0	MAXLINE 5 $

MDC AFG Add Option (continued)

Following is the tuple entry for table FTRGOPTS.

FTRGOPTS

FTRGRP	OPTION	OPTION	OPTVAR
GROUP1	OPTS	OPTS	(3WC) $
GROUP1	CXR	CXR	CDCTALL Y 45 STD

Following is the tuple entry for table FTRGMEMS.

FTRGMEMS

LEN	GRPTYPE	FTRGRP
HOST 00 0 18 10	FTRGRP	GROUP1

Following is the tuple entry for table IBNLINES.

IBNLINES

LEN	DNNO	RESULT
HOST 00 0 18 10	0	DT STN IBN 6212061 IBNTST 0 0 613 (FTRGRP) $

Following is the output from the QDN command.

MAP display example for QDN command

```
qdn 6212061
_____________________________________________________________
DN:  6212061
TYPE:  SINGLE PARTY LINE
SNPA:  613 SIG: DT LNATTIDX: N/A
LINE EQUIPMENT NUMBER:  HOST 00 0 18 10
LINE CLASS CODE:  IBN
IBN TYPE:  STATION
CUSTGRP:  IBNTST SUBGRP: 0 NCOS: 0
CARDCODE:  6X17AA GND: N PADGRP: STDLN BNV: NL MNO: N
PM NODE NUMBER:  39
PM TERMINAL NUMBER: 587
OPTIONS:
DGT
FTRGRP OPTIONS: GROUP1
3WC CXR CTALL Y 45 RLS
```

Power Features enhancements

The PF enhancements portion of MDC AFG Add Option allows PF subscribers who receive PFs through the AFG to manipulate selected features and options from their sets by using table FTRGOPTS to override any Power Feature settings that exist in table PFCTRL (Power Feature Control) for lines that are members of an AFG. Any line that is a member of an AFG and has PF assigned through the AFG has PF settings according to datafill in table FTRGOPTS. Other lines have PF settings according to datafill in table PFCTRL.

Selected features are added, changed, or deleted from a Meridian business set (MBS) equipped with a display. Power Feature capabilities are supported on M5209, M5312, M5212, and Basic Rate Access Meridian Feature Transparency (BRAMFT) ISDN sets.

A subscriber can receive PF capabilities in two ways: individually or as part of an AFG. Individual sets receive PF by adding option PF either through SERVORD or by direct modification of table KSETFEAT (Business Set and Data-Unit Feature). AFG members collectively receive PF through table FTRGOPTS.

Tables PFCTRL and FTRGOPTS provide the operating company the means to control the options and features available for access by PF. Table PFCTRL is the sole controlling mechanism for all PF subscribers except those receiving PF as part of an AFG.

For each option available, table PFCTRL specifies a default customer group, PFDEFAULT. All PF subscribers can access features as datafilled by the PFDEFAULT entries unless a specific customer group entry for the given option exists.

Following are the PFs that can be activated and deactivated by tuple entries in subfield PFAPPL in table FTRGOPTS:

- AAB (automatic answer back)
- ACB (automatic call back)
- ADMCTRL (administrator control)
- AUTODISP (auto display)
- AUD (auto dial)
- BLF (busy lamp field)
- CCV (call covering)
- CFGADDON (configure add-on)

MDC AFG Add Option (continued)

- CFGPHONE (configure phone)
- CFI (call forwarding intragroup)
- CFU (call forwarding universal)
- CPU (call pickup)
- CWT (call waiting)
- DCPK (directed call park)
- DRING (distinctive ringing)
- EMW (executive message waiting)
- FTRACT (feature activation)
- INSPECT (inspect)
- KEYDEF (key definition)
- LANG (choose language)
- LVM (leave message)
- MSB (make set busy)
- MWT (message waiting)
- PFKEY (power feature key)
- PRK (call park)
- PSWD (alter password)
- PUBNAME (public name)
- PVTNAME (private name)
- QLEN (query line equipment number)
- QTD (query time and date)
- RAG (ring again)
- SECLOCK (security lock)
- TWC (three-way calling)

Example table entries

When field OPTION is datafilled with value PFCNTL in table FTRGOPTS, 33 of the options in the above list can be entered in refinement PFAPPL (Power

Features applications). Following are sample tuple entries from table FTRGOPTS.

FTRGOPTS

FTRGRP	OPTION	OPTION	OPTVAR
GROUP1	PFCNTL	PFCNTL	(NAME) (PSWD) (CPU) (RAG) (DRING) (3WC) $
GROUP1	OPTS	OPTS	(AAB) (BLF) (CCV) (CPU) $
GROUP1	3WCPUB	3WCPUB	Y STAR

Translations table flow

The MDC AFG Add Option translations tables are described in the following list:

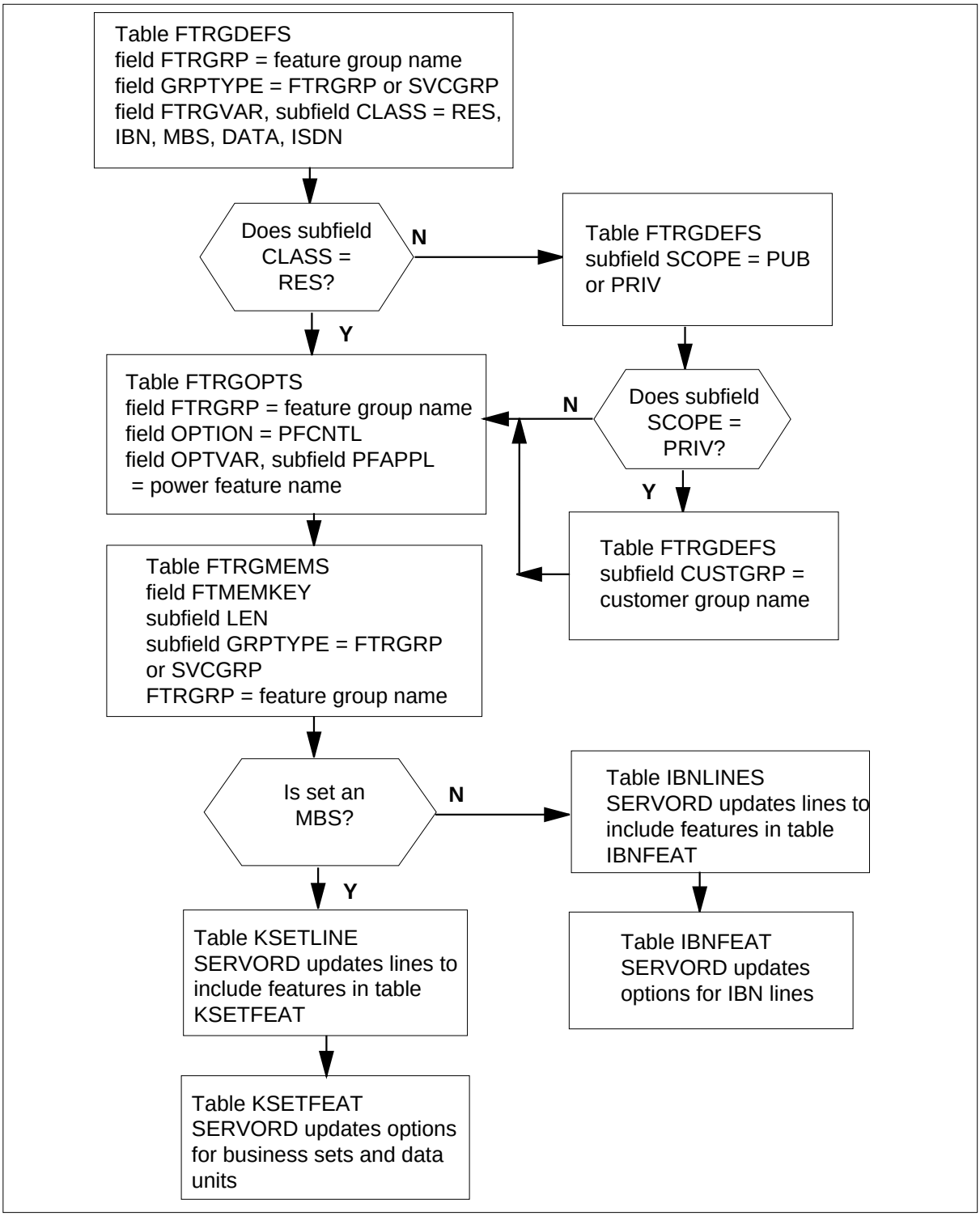
- Table FTRGDEFS (Feature Group Definitions) provides the operating company the capability to package business features into logical groupings, which can be assigned to individual lines using SERVORD. This table specifies the group characteristics of each feature group and service group defined in an office, such as public or private.
- Table FTRGOPTS (Feature Group Options) assigns subscriber options to each feature group and service group defined in an office.
- Table FTRGMEMS (Feature Group Members) associates a line equipment number (LEN) with a feature group or service group. Table FTRGMEMS is datafilled automatically when a FTRGRP or a SVCGRP is added to a line through SERVORD.
- Table KSETLINE (Business Set and Data-Unit Line Assignment) contains the directory number (DN) appearances for Meridian business sets (MBS) and data units. One entry is required for each DN-related key on an MBS and a data unit.
- Table KSETFEAT (Business Set and Data-Unit Feature) lists the line features that are assigned to the MBSs and data units listed in table KSETLINE.
- Table IBNLINES (IBN Line Assignment) contains the line assignments for each 500/2500 set assigned to an IBN, RES, and Multiple Appearance Directory Number (MADN) station number. This table also contains the line assignments for the IBN attendant consoles.
- Table IBNFEAT (IBN Line Feature) assigns options to IBN lines.

MDC AFG Add Option (continued)

The MDC AFG Add Option translation process is shown in the flowchart that follows.

MDC AFG Add Option (continued)

Translations table flow for MDC AFG Add Option



MDC AFG Add Option (continued)

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

Datafill example for MDC AFG Add Option

Datafill table	Example data
FTRGDEFS	AFGPUB FTRGRP MBS PUB 0 MAXLINE 5 CDC $AFGPRIV FTRGRP MBS PRIV CUSTGRP1 0 $SVCGPUB SVCGRP MBS PUB 0 MAXLINE 7 $SVCGPRIV SVCGRP MBS PRIV CUSTGRP2 0 $
FTRGOPTS	AFGPUB PF PF (PSWD 111) (USER GENERAL) (LANG ENGLISH) $AFGPUB PFCNTL PFCNTL (KEYDEF) (FTRACT) (ADMCTRL) (NAME) (PSWD) $
FTRGMEMS	HOST 05 0 00 21 FTRGRP AFGPUBHOST 05 0 00 21 SVCGRP SVCGPUBHOST 05 0 00 22 FTRGRP AFGPUBHOST 00 0 18 02 SVCGRP SVCGPUB
KSETLINE	HOST 00 0 18 10 1 MDN SCA Y Y 6219000 IBNTST 0 0613 (CPU) (MBS) (SSAC) (FTRGRP) $
KSETFEAT	HOST 00 0 18 10 4 SCL SCL L30 $
IBNLINES	HOST 05 0 01 05 0 DT STN RES 6211021 0 (FTRGRP) $
IBNFEAT	HOST 05 0 01 05 DN NFA NFA 621 5015 Y 0 ACY Y Y Y N $

Limitations and restrictions

If an option is assigned to a line through a feature group, the option cannot be deleted from the line unless the feature group is removed.

Interactions

MDC AFG Add Option has no functionality interactions.

Activation/deactivation by the end user

MDC AFG Add Option requires no activation or deactivation by the end user.

Billing

MDC AFG Add Option does not affect billing.

Station Message Detail Recording

MDC AFG Add Option does not affect Station Message Detail Recording.

Datafilling office parameters

MDC AFG Add Option does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement MDC AFG Add Option. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for MDC AFG Add Option

Table	Purpose of table
FTRGDEFS	Feature Group Definitions. This table provides the operating company the capability to package business features into logical groupings, which can be assigned to individual lines using SERVORD. This table specifies the group characteristics of each feature group and service group defined in an office, such as public or private.
FTRGOPTS	Feature Group Options. This table assigns subscriber options to each feature group and service group defined in an office.
FTRGMEMS (Note)	Feature Group Members. This table associates a line equipment number (LEN) with a feature group or service group.
KSETLINE (Note)	Business Set and Data-Unit Line Assignment. This table contains the DN appearances for MBS and data units. One entry is required for each DN-related key on an MBS and a data unit.
KSETFEAT (Note)	Business Set and Data-Unit Feature. This table lists the line features that are assigned to the MBSs and data units listed in table KSETLINE.
IBNLINES (Note)	IBN Line Assignment. This table contains the line assignments for each 500/2500 set assigned to an IBN, RES, and Multiple Appearance Directory Number (MADN) station number. This table also contains the line assignments for the IBN attendant consoles.
IBNFEAT (Note)	IBN Line Feature. This table allows options to be assigned to IBN lines.
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.	

Datafilling table FTRGDEFS

The following table shows the datafill specific to MDC AFG Add Option for table FTRGDEFS. Only those fields that apply directly to MDC AFG Add

MDC AFG Add Option (continued)

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

Datafilling table FTRGDEFS (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
FTRGRP		1- to 16-character alphanumeric name	Feature group name. Enter the feature group name defined by the operating company.
GRPTYPE		FTRGRP, SVCGRP	Group type. Enter FTRGRP for feature group or SVCGRP for service group.
FTRGVAR		see subfield	Feature group variable area. This field consists of subfield CLASS.
	CLASS	DATA, IBN, ISDN, MBS, or RES	Class of station. Enter the type of station class (or terminal class) to which the feature group can be assigned. If the entry in subfield CLASS is RES, go to field NUMLINES. If the entry in subfield CLASS is anything other than RES, datafill refinement OWNERSHIP.
	OWNERSHIP	see subfield	Feature group ownership. This subfield consists of subfield SCOPE.
	SCOPE	PRIV or PUB	Feature group scope. Enter the scope of the feature group. Enter PRIV for a private feature group, or PUB for a public feature group. If the entry in subfield SCOPE is PRIV, datafill refinement CUSTGRP.
	CUSTGRP	1- to 16-character alphanumeric	Customer group. Enter the customer group name that owns the PRIV feature group.
NUMLINES		0 (zero)	Number of lines. This field indicates the number of lines that are currently associated with the feature group. This field is read-only and cannot be modified by the operating company. Enter 0 (zero) when datafilling. Any entry outside the range indicated for this field is invalid.

Datafilling table FTRGDEFS (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		see subfield	Options. This field consists of subfield OPTION.
	OPTION	CDC or MAXLINE	Option list. If only one option is required, enter $ to end the tuple. Enter CDC for the customer data change option (applicable to public feature groups only). No further datafill is required. Enter MAXLINE to limit the total number of lines that can be associated with a feature group, and datafill refinement MAXLINES.
	MAXLINES	0 to 32 767	Maximum number of lines. Enter the total number of lines that can be associated with a feature group.

Datafill example for table FTRGDEFS

The following example shows sample datafill for table FTRGDEFS.

MAP display example for table FTRGDEFS

```
FTRGRP       GRPTYPE      FTRGVAR      NUMLINES     OPTIONS
_____________________________________________________________
AFGPUB       FTRGRP       MBS PUB      0   CDC MAXLINE 5 $
AFGPRIV      FTRGRP       MBS PRIV     CUSTGRP1 0      $
SVCGPUB      SVCGRP       MBS PUB       0      MAXLINE 7 $
SVCGPRIV     SVCGRP       MBS PRIV     CUSTGRP2 0      $
```

Datafilling table FTRGOPTS

The following table shows the datafill specific to MDC AFG Add Option for table FTRGOPTS. Only those fields that apply directly to MDC AFG Add

MDC AFG Add Option (continued)

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

Datafilling table FTRGOPTS (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
FTRGRP		1- to 16-character alphanumeric name	Feature group name. Enter the feature group name to which the option is assigned. Feature group names are defined by the operating company.
OPTION		PFCNTL	Option. Enter the AFG-supported line option. If OPTS is entered, prompts appear for subsequent entries. This entry must agree with the previous field OPTION.
OPTVAR		see subfield	Option variable area. This field consists of subfield OPTION and refinement PFAPPL.
	OPTION	PFCNTL	Option. Enter the option PFCNTL.
	PFAPPL		Power Features applications. Enter up to nine of the following applications. If less than nine applications are required, end the list with a $ (dollar sign).
		AAB	AAB (automatic answer back)
		ACB	ACB (automatic call back)
		ADMCTRL	ADMIN_CTRL (administrator control)
		AUTODISP	AUTODISP (auto display)
		AUD	AUD (auto dial)
		BLF	BLF (busy lamp field)
		CCV	CCV (call covering)
		CFGADDON	CADDON (configure add on)
		CFGPHONE	CPHONE (configure phone)
		CFI	CFI (call forwarding intragroup)
		CFU	CFU (call forwarding universal)
		CPU	CPU (call pickup)

Datafilling table FTRGOPTS (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
		CWT	CWT (call waiting)
		DCPK	DCPK (directed call park)
		DRING	DRING (distinctive ringing)
		EMW	EMW (executive message waiting)
		FTRACT	FTRACT (feature activation)
		INSPECT	INSPECT (inspect)
		KEYDEF	KEYDEF (key definition)
		LANG	LANG (choose language)
		LVM	LVM (leave message)
		MSB	MSB (make set busy)
		MWT	MWT (message waiting)
		PFKEY	PFKEY (power feature key)
		PRK	PRK (call park)
		PSWD	PSWD (alter password)
		PUBNAME	PUB_NAME (public name)
		PVTNAME	PVT_NAME (private name)
		QLEN	QLEN (query line equipment number)
		QTD	QTD (query time and date)
		RAG	RAG (ring again)
		SECLOCK	SLOCK (security lock)
		TWC	TWC (three-way calling)

Datafill example for table FTRGOPTS

The following example shows sample datafill for table FTRGOPTS.

MDC AFG Add Option (continued)

MAP display example for table FTRGOPTS

```
FTRGRP OPTION OPTION                                  OPTVAR
_____________________________________________________________
PFGRP   PF    PF (PSWD 111)(USER GENERAL)(LANG ENGLISH) $
PFGRP   PFCNTL PFCNTL (KEYDEF) (FTRACT) (ADMCTRL) (NAME)
                      (PSWD) $
```

Translation verification tools

MDC AFG Add Option does not use translation verification tools.

SERVORD

The operating company can update AFGs by using MDC AFG Add Option. The ADO command allows operating companies to assign AFG-supported line options to lines that are currently members of AFGs without altering the AFGs or impacting other lines, which may also be assigned to the same AFG.

SERVORD limitations and restrictions

MDC AFG Add Option has no SERVORD limitations and restrictions.

SERVORD prompts

The following table shows the SERVORD prompts used with MDC AFG Add Option.

SERVORD prompts for MDC AFG Add Option

Prompt	Valid input	Explanation
DN_OR_LEN	7-digit DN or LEN	Specifies the 7-digit DN or LEN of the line to be updated
OPTION	FTRGRP	Specifies feature group option
GRPNAME	1- to 16-character alphanumeric name	Specifies name of feature group
Note: Tables FTRGMEMS, KSETLINE, KSETFEAT, IBNLINES, and IBNFEAT are automatically datafilled when MDC AFG Add Option is assigned using SERVORD.		

SERVORD examples for adding MDC AFG Add Option

The following SERVORD example shows how MDC AFG Add Option adds a feature group to a DN or LEN on an MDC single-line set.

SERVORD example for adding MDC AFG Add Option in prompt mode

```
> ADO
SONUMBER: NOW 94 2 23 AM
>
 DN_OR_LEN:
> 6212061
OPTION:
> FTRGRP
GRPNAME:
> GROUP2
OPTION:
> $
```

SERVORD example for adding MDC AFG Add Option in no-prompt mode

```
> ADO $ 6212061 FTRGRP GROUP2 $
```

SERVORD examples for deleting MDC AFG Add Option

The following SERVORD example shows how MDC AFG Add Option deletes a feature group from a DN or LEN on an MDC single-line set.

SERVORD example for deleting MDC AFG Add Option in prompt mode

```
> DEO
SONUMBER: NOW 94 2 23 AM
>
DN_OR_LEN:
> 6212061
OPTION:
> FTRGRP
OPTION:
> $
```

SERVORD example for deleting MDC AFG Add Option in no-prompt mode

```
> DEO $ 6212061 FTRGRP $
```

MDC MBS Interactive Display

Ordering codes

Functional group ordering code: MDC00014

Functionality ordering code: not applicable

Release applicability

DMS100C03 and up

Prerequisites

MDC MBS Interactive Display has no prerequisites.

Description

Feature PF Robustness - Public and Private Name Programming in functionality MDC MBS Interactive Display provides the capability for a PF end user to program the public or private name for business sets depending on the network access availability. A PF end user has the capability of changing the name associated with their directory number (DN) from their set or a designated administrator set.

Currently, the operating company has the following two options regarding Power Features name programming:

- provides access to both public and private name information
- prohibits access to both public and private name information

PF Robustness - Public and Private Name Programming established the following two additional options:

- provides access to public name information but prohibits access to private name information
- provides access to private name information but prohibits access to public name information

Operation

Power Features provide the capability for an end user to manipulate selected features and options from their set. Select features normally manipulated through the Service Order System (SERVORD) or table control may be added, changed or deleted from a Meridian business set (MBS) equipped with a display.

Name programming within Power Features gives the end user the capability to add, change or delete the name associated with a specific DN and network. Names are stored in table DNATTRS (Directory Number Attributes) against a

DN and a network name. The end user has the option of having different name information based on which network is used to complete a call. For example, an end user can desire to display both their first name and department number when calling another individual within the same network yet display the first and last name when completing calls outside the network. If the PF end user has name programming capabilities, they can update the name information associated with each of the networks (public or private).

The end user can receive PF capabilities individually or as part of a feature group. Individual sets can be provided PF by the addition of the PF option either through SERVORD or direct modification of table KSETFEAT (Business Set and Data Unit Feature). Members of a feature group are collectively provided PF through table FTRGOPTS. Tables PFCTRL (Power Feature Control) and table FTRGOPTS (Feature Group Options) provide the operating company with the means of controlling which options and features are available for access by way of PF.

Table usage

Name programming privileges are extended to the end user through tables CUSTNTWK (Customer Group Network), PFCTRL, and FTRGOPTS. Table CUSTNTWK allows the operating company to define the specific features and characteristics of the customer group. The key to the table is field CUSTNAME. Field NETNAME specifies which network name is used in displaying the identification of the end user in the customer group. Field NETNAME can be datafilled with either PUBLIC or PRIVATE. If field NETNAME is set to PUBLIC, (which is the default), only the public name is allowed to be displayed (assuming PF Robustness - Public and Private Name Programming is available to the PF end user).

If field NETNAME is set to PRIVATE, both the public and private name is allowed to be displayed (depending on the network destination and whether Feature PF Robustness - Public and Private Name Programming is available to the Power Features end user through either table PFCTRL or table FTRGOPTS).

Table PFCTRL enables the end user to control name programming privileges for the customer group.

Table FTRGOPTS enables the end user to control name programming privileges for specific feature groups.

Operational measurements

There are two registers in OM group TME that peg the use of PF Robustness - Public and Private Name Programming. Register NAMEUPD pegs the number of successful updates. Register NAMEFAIL pegs the number of

MDC MBS Interactive Display (continued)

unsuccessful attempts it takes to update the name. The two fields are not changed; however, the fields are now pegged whenever PUB_NAME or PVT_NAME is updated or fails.

Translations table flow

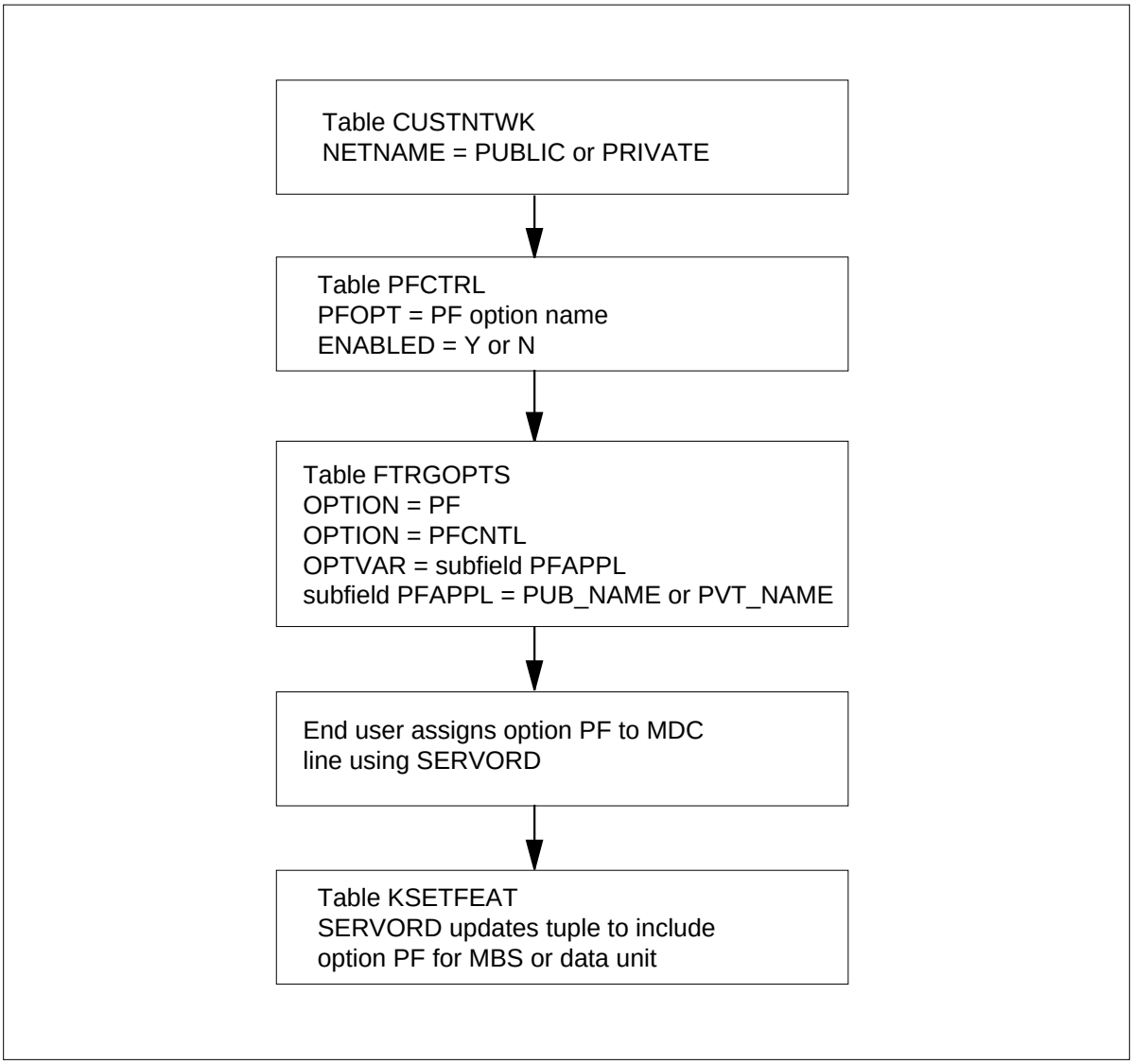
The MDC MBS Interactive Display translations tables are described in the following list:

- Table CUSTNTWK (Customer Group Network) provides the operating company with the ability to define the specific features and characteristics of the customer group.
- Table PFCTRL (Power Feature Control) allows the operating company to control the options and features available to PF end users receiving PF as part of a customer group.
- Table FTRGOPTS (Feature Group Options) assigns line options to all feature groups defined in an office.
- Table KSETFEAT (Business Set and Data Unit Feature) lists the line features that are assigned to the business sets and data units listed in table KSETLINE (Business Set and Data Unit Line Assignment).

The MDC MBS Interactive Display translations process is shown in the flowchart that follows.

MDC MBS Interactive Display (continued)

Table flow for MDC MBS Interactive Display



MDC MBS Interactive Display (continued)

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

Datafill example for MDC MBS Interactive Display

Datafill table	Example data
CUSTNTWK	PFDEFAULT PUBLIC 1 2 (PUBLIC IBNDDN 10) $ IBNTST PRIVATE A 2 (CLID OFFNET) $
PFCTRL	PFDEFAULT PUB_NAME N N PFDEFAULT CFI Y Y CLASSDSP PSWD L Y N CLASSDSP PVT_ NAME Y N
FTRGOPTS	PFGRP PFCNTL PFCNTL (PUB_NAME) (PVT_NAME)
KSETFEAT	00 1 02 03 8 PF PF PWSD 123 $

Limitations and restrictions

The following limitations and restrictions apply to MDC MBS Interactive Display:

- If the NAME suboption is set in the old table FTRGOPTS, then PUB_NAME and PVT_NAME are set in the new table FTRGOPTS.
- If the NAME suboption is not set in the old table FTRGOPTs, then PUB_NAME and PVT_NAME are not set in the new table FTRGOPTS.

Interactions

MDC MBS Interactive Display has no functionality interactions.

Activation/deactivation by the end user

MDC MBS Interactive Display requires no activation or deactivation by the end user.

Billing

MDC MBS Interactive Display does not affect billing.

Station Message Detail Recording

MDC MBS Interactive Display does not affect Station Message Detail Recording.

Datafilling office parameters

MDC MBS Interactive Display does not affect office parameters.

MDC MBS Interactive Display (continued)

Datafill sequence

The following table lists the tables that require datafill to implement MDC MBS Interactive Display. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for MDC MBS Interactive Display

Table	Purpose of table
CUSTNTWK	Customer Group Network. This table provides the operating company with the ability to define the specific features and characteristics of the customer groups on a network basis.
PFCTRL	Power Feature Control. This table allows the operating company to control the options and features available to all PF end users except those receiving PF as part of a feature group.
FTRGOPTS	Feature Group Options. This table allows the operating company to control the options and features available to PF end users receiving PF as part of a feature group.
KSETFEAT	Business Set and Data Unit Feature. This table allows the end user to add PF to a customer group. ***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.

Datafilling table CUSTNTWK

The following table shows the datafill specific to MDC MBS Interactive Display for table CUSTNTWK. Only those fields that apply directly to MDC MBS Interactive Display are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
CUSTNAME		1- to 16-character alphanumeric name	Customer group name. This field specifies the name assigned to the customer group.

MDC MBS Interactive Display (continued)

Datafilling table (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
NETNAME		PUBLIC or PRIVATE	Network name. This field specifies the network used in displaying the identification of the end user in the customer group.
NETCGID		0 to 4096	Network customer group identifier. This field specifies the number of the network customer group identifier assigned to the customer group.

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
_____________________________________________________
PFDEFAULT   PUBLIC       1        2  (PUBLIC  IBNDDN 10)$
IBNTST      PRIVATE      1         2     (CLID  OFFNET)$
```

Datafilling table PFCTRL

The following table shows the datafill specific to MDC MBS Interactive Display for table PFCTRL. Only those fields that apply directly to MDC MBS Interactive Display are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
CUSTGRP		1- to 16-character alphanumeric name	Customer group. This field specifies the name of the customer group.
PFOPT		CFI	Power features option. This field specifies the feature to be assigned as a PF feature. Enter the abbreviation corresponding to the PF name.

MDC MBS Interactive Display (continued)

Datafilling table (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
ENABLED		Y or N	Enabled. This field specifies whether the feature assigned in field PFOPT is enabled or disabled.
AUDIT		Y or N	Audit. This field specifies whether the audit trail is generated.

Assignable feature and attribute names

The following table lists the feature and attribute names that can be assigned as PF in field PFOPT of table PFCTRL. Options only appear in table PFCNTL if they are available in the switch.

Datafilling field PFOPT of table PFCNTL (Sheet 1 of 2)

Abbreviation	Feature or attribute name
AAB	Automatic Answer Back
ACB	Automatic Call Back
ADMIN_CTRL	Administrator Control
AUTODISP	Auto Display
AUD	Auto Dial
BLF	Busy Lamp Field
CADDON	Configure Add On
CCV	Call Covering
CFI	Call Forwarding Intragroup
CFU	Call Forwarding Universal
CPHONE	Configure Phone
CPU	Call Pickup
CWT	Call Waiting
DCPK	Directed Call Park
DRING	Distinctive Ringing
EMW	Executive Message Waiting

MDC MBS Interactive Display (continued)

Datafilling field PFOPT of table PFCNTL (Sheet 2 of 2)

Abbreviation	Feature or attribute name
FTRACT	feature Activation
INSPECT	Inspect
KEYDEF	Key Definition
LANG	Choose Language
LVM	Leave Message
MSB	Make Set Busy
MWT	Message Waiting
PUB_NAME	Name Programming
PVT_NAME	Name Programming
PFKEY	Power Feature Key
PRK	Call Park
PSWD	Alter Password
QLEN	Query Line Equipment Number
QTD	Query Time and Date
RAG	Ring Again
SLOCK	Security Lock
3WC	Three-Way Calling

Datafill example for table PFCTRL

The following example shows sample datafill for table PFCTRL. In the example, all groups are denied MDC MBS Interactive Display except for those sets within the CLASSDSP customer group.

MAP display example for table PFCTRL

```
CUSTGRP     PFOPT     ENABLED  AUDIT
_____________________________________________________

PFDEFAULT   PUB_NAME         N      N
PFDEFAULT   CFI              Y      Y
CLASSDSP    PSWD             Y      N
CLASSDSP    PVT_NAME         Y      N
```

Datafilling table FTRGOPTS

The following table shows the datafill specific to MDC MBS Interactive Display for table FTRGOPTS. Only those fields that apply directly to MDC MBS Interactive Display are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table

Field	Subfield or refinement	Entry	Explanation and action
FTRGRP		1- to 16-character alphanumeric name	Feature group name. Specifies the name of the feature group to which the option is assigned.
OPTION		PFCNTL	Feature group option. Specifies the name of the option assigned to the feature group.
OPTION		PFCNTL	Option. Specifies the option.
OPTVAR		see subfield	Option variable area. This field consists of subfield PFAPPL.
	PFAPPL	PUB_NAME or PVT_NAME	Power features application. This subfield specifies if access to public name information is available but prohibits access to private name information or if access to private name information is available but prohibits access to public name information. The customer has access to both if both are set.

Datafill example for table FTRGOPTS

The following example shows sample datafill for table FTRGOPTS.

MDC MBS Interactive Display (continued)

MAP display example for table FTRGOPTS

```
FTRGRP              OPOTION    OPTION     OPTVAR
_____________________________________________________
PFGRP               PFCNTL     PFCNTL     (PUB_NAME_
                                          (PVT_NAME)
```

Translation verification tools

MDC MBS Interactive Display does not use translation verification tools.

SERVORD

The end user can receive PF capabilities individually or as part of a feature group. Individual sets may be provided PF by the addition of the PF option either through SERVORD or direct modification of table KSETFEAT.

SERVORD limitations and restrictions

MDC MBS Interactive Display has no SERVORD limitations and restrictions.

SERVORD prompts

The following table shows the SERVORD prompts used to add MDC MBS Interactive Display to a key set.

SERVORD prompts for MDC MBS Interactive Display (Sheet 1 of 2)

Prompt	Valid input	Explanation
DN_OR_LEN	7-digit DN or LEN	Specifies the 7-digit DN or LEN of the line to be added.
OPTKEY	1 to 69 for MBS	Specifies the number of the key to which option PF is to be assigned.
OPTION	PF	Specifies the option to be added to the line.
PFOPT	USER,LANGPS WDLOCK	Specifies a PF suboption. Enter USER to specify the class of user (general or administrator). Enter LANG to specify English or French. Enter PASWD to specify a numeric password of up to six digits.

MDC MBS Interactive Display (continued)

SERVORD prompts for MDC MBS Interactive Display (Sheet 2 of 2)

Prompt	Valid input	Explanation
USER	GENERAL, ADMIN	Specifies the class of the end user. Enter GENERAL (the default value) to specify that end users can only alter PF on their own sets. Enter ADMIN to specify that administrators can alter PF on any set in the customer group.
PASSWORD	6-digit numeric string	Specifies the password. Enter a number up to six digits consisting of the numerals 0 to 9.

Note: Table KSETFEAT is automatically datafilled when MDC MBS Interactive Display is assigned using SERVORD.

SERVORD example for adding MDC MBS Interactive Display

The following SERVORD example shows how PF is added to an existing line on an MBS using the ADO (add option) command.

SERVORD example for MDC MBS Interactive Display to add Power Features to an MBS

```
>ADO
SONUMBER:  NOW  94  07  01  PM
>
DN_OR_LEN:
> 0 0 10 21
OPTKEY:
> 1
OPTION:
> PF
PFOPT:
> USER
USER:
> GENERAL
PFOPT:
> PSWD
PASSWORD:
> 123
PFOPT:
> $
OPTKEY:
> $
```

MDC MBS Interactive Display (end)

SERVORD example for MDC MBS Interactive Display in no-prompt mode

```
>ADO  $  0 0 10 21  1  PF  USER  GENERAL  PSWD 123  $  $
```

Note: Table KSETFEAT is automatically datafilled when MDC MBS Interactive Display is assigned using SERVORD.

PF Robustness - Call Forwarding per Key (CFK)

Ordering codes

Functional group ordering code: MDC00014

Functionality ordering code: not applicable

Release applicability

DMS100C03 and up

Prerequisites

PF Robustness - Call Forwarding per Key (CFK) has no prerequisites.

Description

Power Features (PF) refers to the capability of an end user to manipulate selected features and options from a Meridian business set (MBS) equipped with a display. Certain features normally manipulated by the Service Order System (SERVORD) or table control may be added, changed, or deleted.

PF end users are divided into two distinct classes:

- GENERAL users (have ability to alter feature data pertaining to their set)
- ADMIN users (have GENERAL user capabilities plus limited access to feature data belonging to other sets in the customer group)

Feature PF Robustness - Call Forwarding per Key (CFK) in functionality MDC MBS Interactive Display supports the Call Forwarding (CFW) option in the PF environment. CFK functionality allows each directory number (DN) key on a business set to be programmed to its own remote location.

CFK for the PF option Call Forwarding supports

- office parameter CFX_SEPARATE_KEYLIST_FEATURE and does not affect the availability of option CFW for PF
- different forwarded-to DNs for each DN of the business set

The following types of CFW are provided for the PF end user:

- Call Forwarding All Calls - All incoming calls may be forwarded to a preassigned DN. The option CFW is accessible through PF and is enabled

PF Robustness - Call Forwarding per Key (CFK) (continued)

in table PFCTRL (Power Feature Control). This type of CFW offers the following selections in table PFCTRL:

— Call Forwarding Intragroup (CFI) - When only CFI is enabled in table PFCTRL, the called and the forwarded-to number must be in the same customer group to complete the CFW option.

— Call Forwarding Universal (CFU) - When CFU is enabled in table PFCTRL, all incoming calls can be forwarded to any preassigned DN. When both CFU and CFI are enabled, CFU overrides CFI.

Note: CFI and CFU can be assigned to a designated key on the business set.

- Call Forwarding Busy (CFB) - While the called number is busy, all incoming calls may be forwarded to a preassigned DN.
- Call Forwarding Don't Answer (CFD) - If the called number does not answer after a number of predetermined rings, all incoming calls may be forwarded to a preassigned DN.

Note: The PF end user must be assigned to a business set by the operating company to access and use CFB and CFD.

Operation

The PF end user performs the following operations for CFW:

- Add - assigns an unused key for CFW
- Delete - removes key access capability from CFW
- Change - allows PF end users to update types of CFW
- Deact - deactivates specific types of CFW
- Activate - activates specific types of CFW

Call Forwarding Busy or Call Forwarding Don't Answer (CFB/CFD)

The CFB and CFD types of CFW are assigned by the operating company to PF end users through datafill. Since the impact is the same for both CFB and CFD, for simplification the following discussions only mention CFB.

PF Robustness - Call Forwarding per Key (CFK) (continued)

In table KSETFEAT (Business Set and Data-Unit Feature), the following fields must be datafilled to provide CFB to PF end users.

- CFBDOPT - this field provides four choices
  - — CFB - CFB supported as part of CFW
  - — CFD - CFD supported as part of CFW
  - — CFBD - both CFB and CFD supported as part of CFW
  - — N - neither CFB nor CFD supported
- CFBCNTL - this field provides three choices and is prompted after CFB is entered in field CFBDOPT:
  - — P(programmable) - The PF end user can add or update the destination DN.
  - — F(fixed) - The PF end user can activate or deactivate the CFB after the operating company assigns the destination DN.
  - — N(non-programmable) - CFB is always active when the operating company assigns the destination DN.
- CBTYPE - this field provides the following choices:
  - — CBI (Call Forwarding Busy, Intragroup) - The PF end user is denied forwarding of intragroup calls while the called number is busy. For externally originated calls when the called number is busy, the PF end user is permitted to program the DN, which must be in the same customer group as the called number.
  - — CBE (Call Forwarding Busy, External) - The PF end user is denied forwarding of external calls while the called number is busy. For internally originated calls when the called number is busy, the PF end user is permitted to program the DN which must be in the same customer group as the called number.
  - — CBU (Call Forwarding Busy, Unrestricted) - All incoming calls can be forwarded to a preassigned DN in any customer group while the called number is busy.
  - — CBICBU (Call Forwarding Busy, Intragroup; Call Forwarding Busy, Unrestricted) - The PF end user is denied forwarding of intragroup calls while the called number is busy. For externally originated calls when the called number is busy, the PF end user is permitted to program the DN to any customer group.
  - — CBECBU (Call Forwarding Busy, External; Call Forwarding Busy, Unrestricted) - The PF end user is denied forwarding of external calls while the called number is busy. For internally originated calls when

PF Robustness - Call Forwarding per Key (CFK) (continued)

the called number is busy, the PF end user is permitted to program the DN, which must be in the same customer group as the called number.

— IECFB (Internal, External Call Forwarding Busy) - For internally and externally originated calls when the called number is busy, the PF end user is permitted to program different destination DNs, which must be in the same customer group as the called number.

— IECFBCBU (Internal, External Call Forwarding Busy; Call Forwarding Busy, Unrestricted) - For internally and externally originated calls when the called number is busy, the PF end user is permitted to program different destination DNs.

— N - While the called number is busy, all incoming calls can be forwarded to one preassigned DN, which has to be in the same customer group as the called number .

Note: For the PF end user, the major difference between the above CFB types occurs when IECFB and IECFBCBU are datafilled. Through datafill, the PF end user must choose an internal or external forwarded-to DN.

Translations table flow

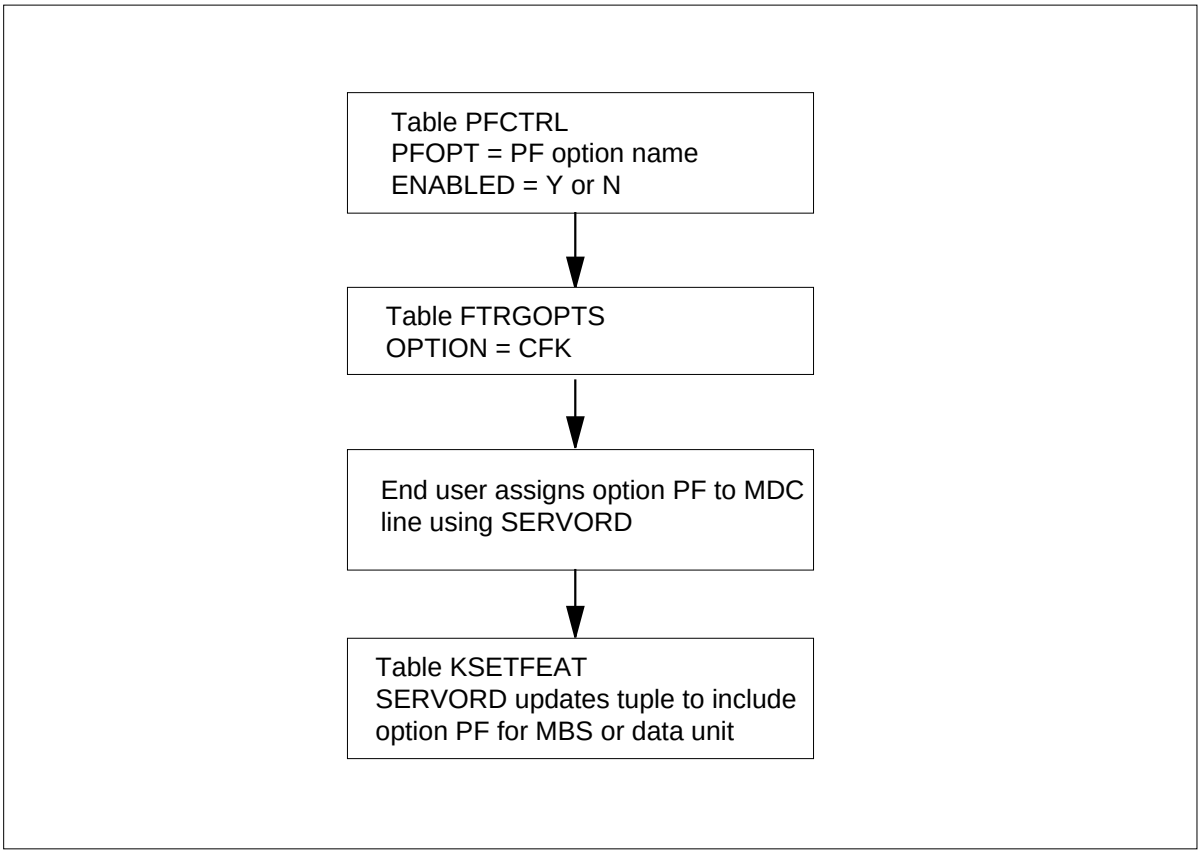
The PF Robustness - Call Forwarding per Key (CFK) translations tables are described in the following list:

- Table PFCTRL defines access permissions for feature group end users.
- Table FTRGOPTS assigns line options to all feature groups defined in an office. PF Robustness - CFK enables operating company personnel to select the features that can be chosen by PF end users.
- Table KSETFEAT lists the line features that are assigned to the business sets and data units listed in table KSETLINE (Business Set and Data Unit Line Assignment).

The PF Robustness - Call Forwarding per Key (CFK) translation process is shown in the flowchart that follows.

PF Robustness - Call Forwarding per Key (CFK) (continued)

Table flow for PF Robustness - Call Forwarding per Key (CFK)



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

Datafill example for PF Robustness - Call Forwarding per Key (CFK)

Datafill table	Example data
PFCTRL	PFDEFAULT NAME N N PFDEFAULT CFI Y Y PFDEFAULT PSWD Y N CLASSDSP NAME Y N
FTRGOPTS	PFGRP CFK CFK $
KSETFEAT	00 1 02 03 8 PF PF CFK Y 555-1234 CFD P CBU $

Limitations and restrictions

PF Robustness - Call Forwarding per Key (CFK) has no limitations or restrictions.

PF Robustness - Call Forwarding per Key (CFK) (continued)

Interactions

PF Robustness - Call Forwarding per Key (CFK) has no functionality interactions.

Activation/deactivation by the end user

Working within the PF environment, the end user is involved with data entry and manipulation through the different keys on the set, and responding to request and status messages presented on the display.

The following figures illustrate the activation/deactivation for CFW by the PF end user on standard M5312 and BRAMFT ISDN display sets with and without option CFK.

The PF end user may be using one of two types of business sets: the standard M5312 display or the BRAMFT ISDN display. The following figure shows the difference between the two displays.

Difference between the standard M5312 and the BRAMFT ISDN displays

```
CALL FORWARD
*=NEXT    1=SELECT    #=BACK
```

Example of the standard M5312 display.

```
CALL FORWARD
NEXT    SELECT    BACK    EXIT

NEXT      SELECT    BACK
soft key  soft key  soft key
```

Example of the BRAMFT ISDN display.

The following figure illustrates the standard M5312 displays that a PF end user receives when option CFW is currently selected without CFK.

PF Robustness - Call Forwarding per Key (CFK) (continued)

Standard M5312 displays for Call Forwarding without option CFK selected

`CALL FORWARD` `*=NEXT  1=SELECT  #=BACK`	End user presses 1 to select CFW option.
`CALL FORWARD OPTIONS` `1=DELETE  2=CHANGE  0=EXIT`	End user presses 2 to select the change operation.
`SELECT FORWARD TYPE` `1=ALLCALLS  2=BUSY  7=MORE`	End user presses 7 to obtain more information.
`SELECT FORWARD TYPE` `1=NOANSWER  0=EXIT  7=MORE`	End user presses 1 to select CFD option.
`ENTER FORWARD NOANSWER #` `*=<-- HOLD OK`	End user enters the desired digits and presses the HOLD key.
`NOANSWER 7003 ACTIVE` `1=DEACT  2=CHANGE  0=EXIT`	End user presses 0 to go back to the previous level.
`SELECT FORWARD TYPE` `1=ALLCALLS  2=BUSY  7=MORE`	End user can press the release key to terminate the PF session.

The following figure illustrates the BRAMFT ISDN displays that a PF end user receives when option CFW is currently selected without CFK. In this figure the soft keys of the displays are not shown to simplify the illustration.

PF Robustness - Call Forwarding per Key (CFK) (continued)

BRAMFT ISDN displays for Call Forwarding without option CFK selected

`CALL FORWARD` `NEXT  SELECT  BACK`	End user presses NEXT soft key to select CFW option.
`CALL FORWARD OPTIONS` `DELETE  CHANGE  EXIT`	End user presses CHANGE to select the change operation.
`SELECT FORWARD TYPE` `ALLCALLS  BUSY  NOANSWER  EXIT`	End user presses NOANSWER soft key to select the CFD.
`ENTER FORWARD NOANSWER #` `<--  OK`	End user enters the desired digits and presses the OK soft key.
`NOANSWER 7003 ACTIVE` `DEACT  CHANGE  EXIT`	End user presses EXIT soft key to go back to the previous level.
`SELECT FORWARD TYPE` `ALLCALLS  BUSY  NOANSWER  EXIT`	End user can press the release key to terminate the PF session.

Feature Capabilities

Feature PF Robustness - Call Forwarding per Key allows the PF end user to program to a different forwarded-to DN for each DN on the Call Forwarding key list of a business set.

The PF end user may use feature CFK when the operating company assigns it to the business set. This feature does not change any of the existing CFW features regardless of the assignment or deletion of the existing feature.

CFI, CFU, and CFK cannot be assigned to the same business set. CFK has the same characteristics as CFU. When CFK is active, it takes precedence over any other CFW types, such as CFB and CFD.

The following figure illustrates the difference between the display for the business set with option CFK and the business set without option CFK.

PF Robustness - Call Forwarding per Key (CFK) (continued)

Display differences between business set with and without CFK

SELECT FORWARD TYPE 1=ALLCALLS 2=BUSY 0=EXIT	This is the display when option CFK is not datafilled on the business set.
FORWARD TYPE OR LINE KEY 1=ALLCALLS 2=BUSY 0=EXIT	This is the display when option CFK is datafilled on the business set. In addition to selecting the Power Feature option name, the PF end user can also program each DN key on the set to a remote location.

The following figure illustrates the CFK feature datafilled on a standard M5312 business set. When a selected DN key does not have a forwarded-to DN associated with it, the PF end user is prompted for the forwarded-to number. After the forwarded-to DN is assigned for the selected DN, call forwarding becomes active for the selected DN.

Standard M5312 displays for Call Forwarding with option CFK selected

CALL FORWARD *=NEXT 1=SELECT #=BACK	End user presses 1 to select Call Forwarding option.
CALL FORWARD OPTIONS 1=DELETE 2=CHANGE 0=EXIT	End user presses 2 to select the change operation.
FORWARD TYPE OR LINE KEY 1=ALLCALLS 2=BUSY 0=EXIT	End user presses a DN key on the set.
ENTER FORWARD ALLCALLS # *=<-- HOLD OK	The forwarded-to number is entered for the selected DN and the HOLD key is pressed.
NOANSWER 7003 ACTIVE 1=DEACT 2=CHANGE 0=EXIT	End user presses 0 to go back to the previous level.

Billing

PF Robustness - Call Forwarding per Key (CFK) does not affect billing.

Station Message Detail Recording

PF Robustness - Call Forwarding per Key (CFK) does not affect Station Message Detail Recording.

PF Robustness - Call Forwarding per Key (CFK) (continued)

Datafilling office parameters

PF Robustness - Call Forwarding per Key (CFK) does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement PF Robustness - Call Forwarding per Key (CFK). The tables are listed in the order in which they are to be datafilled.

Datafill tables required for PF Robustness - Call Forwarding per Key (CFK)

Table	Purpose of table
PFCTRL	Power Feature Control. This table allows the operating company to control the options and features available to all PF end users except those receiving PF as part of a feature group.
FTRGOPTS	Feature Group Options. This table allows the operating company to control the options and features available to PF end users receiving PF as part of a feature group.
KSETFEAT	Business Set and Data Unit Feature. This table allows the end user to add PF to a customer group. ***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.

Datafilling table PFCTRL

The following table shows the datafill specific to PF Robustness - Call Forwarding per Key (CFK) for table PFCTRL. Only those fields that apply directly to PF Robustness - Call Forwarding per Key (CFK) are shown. For a

PF Robustness - Call Forwarding per Key (CFK) (continued)

description of the other fields, refer to the data schema section of this document.

Datafilling table PFCTRL (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
CUSTGRP		1- to 16-character alphanumeric name	Customer Group Name. Specifies the name of the customer to which the data in this tuple applies. This name must be previously datafilled in table CUSTENG.
PFOPT		PF option	Power Feature Options. Specifies the name of a feature that can be assigned as a PF option. Each operating company office has an individualized list of PF options, depending on the feature packages loaded into the switch. Refer to tables IBNFEAT, KSETFEAT, and LENFEAT for a description of all the options. The current list of PFs is as follows:
		AAB	AAB (automatic answer back)
		ACB	ACB (automatic call back)
		ADMIN_CTRL	ADMIN_CTRL (administrator control)
		AUTODISP	AUTODISP (auto display)
		AUD	AUD (auto dial)
		BLF	BLF (busy lamp field)
		CCV	CCV (call covering)
		CADDON	CADDON (configure add on)
		CPHONE	CPHONE (configure phone)
		CFI	CFI (call forwarding intragroup)
		CFU	CFU (call forwarding universal)
		CPU	CPU (call pickup)
		CWT	CWT (call waiting)
		DCPK	DCPK (directed call park)
		DRING	DRING (distinctive ringing)

PF Robustness - Call Forwarding per Key (CFK) (continued)

Datafilling table PFCTRL (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
		EMW	EMW (executive message waiting)
		FTRACT	FTRACT (feature activation)
		INSPECT	INSPECT (inspect)
		KEYDEF	KEYDEF (key definition)
		LANG	LANG (choose language)
		LVM	LVM (leave message)
		MSB	MSB (make set busy)
		MWT	MWT (message waiting)
		PF	PF (power feature)
		PRK	PRK (call park)
		PSWD	PSWD (alter password)
		PUB_NAME	PUB_NAME (public name)
		PVT_NAME	PVT_NAME (private name)
		QLEN	QLEN (query line equipment number)
		QTD	QTD (query time and date)
		RAG	RAG (ring again)
		SLOCK	SLOCK (security lock)
		3WC	3WC (three-way calling)
ENABLED		Y or N	Enabled. Enter Y to enable the specific feature datafilled as a PF option in field PFOPT. Enter N to disable the specific feature.
AUDIT		Y or N	Audit. Enter Y to generate journal file entries and log reports to record PF usage. Otherwise, enter N.

Datafill example for table PFCTRL

The following example shows sample datafill for table PFCTRL.

PF Robustness - Call Forwarding per Key (CFK) (continued)

MAP display example for table PFCTRL

```
CUSTGRP       PFOPT       ENABLED       AUDIT
_____________________________________________________
PFDEFAULT      NAME          N            N
PFDEFAULT      CFI           Y            Y
PFDEFAULT      PSWD          Y            N
CLASSDSP       NAME          Y            N
```

Datafilling table FTRGOPTS

The following table shows the datafill specific to PF Robustness - Call Forwarding per Key (CFK) for table FTRGOPTS. Only those fields that apply directly to PF Robustness - Call Forwarding per Key (CFK) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table FTRGOPTS (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
FTRGRP		1- to 16-character alphanumeric name	Feature Group Name. Specifies the feature group name to which the option is assigned. Feature group names are defined by the customer.
OPTION		PFCNTL	Feature Group Option. Enter the AFG supported line option. If OPTS is entered, prompts appear for subsequent entries.
OPTION		PFCNTL	Option. Enter the AFG supported line option. If OPTS is entered, prompts appear for subsequent entries. This entry must agree with previous field OPTION.
OPTVAR		see subfield	Option Variable Area. This field consists of subfield OPTION and refinement PFAPPL.
	OPTION	PFCNTL	Option. Enter the option PFCNTL.
	PFAPPL		Power Features applications. Enter up to nine of the following applications. If less than nine applications are required, end the list with a $ (dollar sign).
		AAB	AAB (automatic answer back)
		ACB	ACB (automatic call back)

PF Robustness - Call Forwarding per Key (CFK) (continued)

Datafilling table FTRGOPTS (Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
		ADMIN_CTRL	ADMIN_CTRL (administrator control)
		AUTODISP	AUTODISP (auto display)
		AUD	AUD (auto dial)
		BLF	BLF (busy lamp field)
		CCV	CCV (call covering)
		CADDON	CADDON (configure add on)
		CPHONE	CPHONE (configure phone)
		CFI	CFI (call forwarding intragroup)
		CFU	CFU (call forwarding universal)
		CPU	CPU (call pickup)
		CWT	CWT (call waiting)
		DCPK	DCPK (directed call park)
		DRING	DRING (distinctive ringing)
		EMW	EMW (executive message waiting)
		FTRACT	FTRACT (feature activation)
		INSPECT	INSPECT (inspect)
		KEYDEF	KEYDEF (key definition)
		LANG	LANG (choose language)
		LVM	LVM (leave message)
		MSB	MSB (make set busy)
		MWT	MWT (message waiting)
		PFKEY	PFKEY (power feature key)
		PRK	PRK (call park)
		PSWD	PSWD (alter password)

PF Robustness - Call Forwarding per Key (CFK) (continued)

Datafilling table FTRGOPTS (Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
		PUB_NAME	PUB_NAME (public name)
		PVT_NAME	PVT_NAME (private name)
		QLEN	QLEN (query line equipment number)
		QTD	QTD (query time and date)
		RAG	RAG (ring again)
		SLOCK	SLOCK (security lock)
		3WC	3WC (three-way calling)

Datafill example for table FTRGOPTS

The following example shows sample datafill for table FTRGOPTS.

MAP display example for table FTRGOPTS

```
FTRGRP OPTION OPTION
_____________________________________________________________
PFGRP   CFK    CFK                                          $
```

Translation verification tools

PF Robustness - Call Forwarding per Key (CFK) does not use translation verification tools.

SERVORD

The end user, either individually or as part of a feature group, can receive PF capabilities. Individual business sets may be provided PF by the addition of the option PF either through SERVORD or direct modification of table KSETFEAT.

SERVORD limitations and restrictions

PF Robustness - Call Forwarding per Key (CFK) has no SERVORD limitations and restrictions.

PF Robustness - Call Forwarding per Key (CFK) (continued)

SERVORD prompts

The following table shows the SERVORD prompts used to add PF Robustness - Call Forwarding per Key (CFK) to a key set.

SERVORD prompts for PF Robustness - Call Forwarding per Key (CFK)

Prompt	Valid input	Explanation
DN_OR_LEN	7-digit DN or LEN	Specifies the 7-digit DN or LEN of the line to be added.
OPTKEY	1 to 69 for MBS	Specifies the number of the key to which option PF is to be assigned.
OPTION	PF	Specifies the option to be added to the line.
KEYLIST	1 to 69 for MBS	Specifies the key numbers of the DNs to which an option applies.

SERVORD example for adding PF Robustness - Call Forwarding per Key (CFK) to a key set

The following SERVORD example shows how PF Robustness - Call Forwarding per Key (CFK) is added to an existing line on an MBS using the ADO (add option) command.

SERVORD example for PF Robustness - Call Forwarding per Key (CFK) in prompt mode

```
>ADO
SONUMBER:  NOW  94  07  01  PM
>
DN_OR_LEN:
> 3 0 1 8
OPTKEY:
> 4
OPTION:
> CFK
KEYLIST:
> 1
KEYLIST:
> 2
KEYLIST:
> $
OPTKEY:
> $
```

PF Robustness - Call Forwarding per Key (CFK) (end)

SERVORD example for PF Robustness - Call Forwarding per Key (CFK) in no-prompt mode

```
>ADO $ 3 0 1 8 4 CFK 1 2 $ $
```

Note: Table KSETFEAT is automatically datafilled when PF Robustness - Call Forwarding per Key (CFK) is assigned using SERVORD.

PF Robustness - Call Pickup Separate Keys Compatibility

Ordering codes

Functional group ordering code: MDC00014

Functionality ordering code: not applicable

Release applicability

DMS100C03 and up

Prerequisites

PF Robustness - Call Pickup Separate Keys Compatibility has no prerequisites.

Description

Power Features (PF) refers to the capability of an end user to manipulate selected features and options from a Meridian business set (MBS) equipped with a display. Certain features normally manipulated by the Service Order System (SERVORD) or table control may be added, changed or deleted.

PF end users are divided into two distinct classes:

- GENERAL users (have ability to alter feature data pertaining to their set)
- ADMIN users (have GENERAL user capabilities plus limited access to feature data belonging to other sets in the customer group)

Feature PF Robustness - Call Pickup Separate Keys Compatibility (CC) in functionality MDC MBS Interactive Display enhances the PF environment to provide PF end users with more flexibility to add or delete members from their Call Pickup (CPU) group.

Feature PF Robustness - Call Pickup Separate Keys Compatibility (CC) allows PF end users

- to add selectively a specific directory number (DN) to the CPU group of which the primary DN is a member
- to delete selectively a specific DN from the CPU group of which the primary DN is a member

CPU allows selective modification of the list of members within the PF end user's CPU group. The CPU group list is modified by progressing through a series of menu-driven steps output on the business set display.

PF end users may add their station to an existing pickup group or create a new pickup group. When a PF end user creates a new pickup group, only that end

PF Robustness - Call Pickup Separate Keys Compatibility (continued)

user is in the group. To include others in the pickup group, individual end users must add themselves to the group using option CPU. CPU allows a a subset of the station's lines to be assigned to the pickup group.

Operation

CPU permits a station to answer calls incoming to another station within the same pickup group. CPU is provided on an individual station basis within a particular MDC customer group.

To answer a call within the preset pickup group, the end user

- goes off-hook
- listens for dial tone
- presses the CPU softkey or dials the assigned access code for CPU

The PF end user performs the following operations for CPU:

- Add - allows PF end users to add entries to an existing CPU group key list

  Note: Only extensions that are part of the primary DN customer group can be added to the CPU group key list.

- Change - allows PF end users to update the CPU group key list
- Delete - allows PF end users to remove entries from an existing CPU group key list

  Note: The primary DN extension cannot be removed from the CPU group key list.

- Save - allows PF end users to store the CPU group key list

Translations table flow

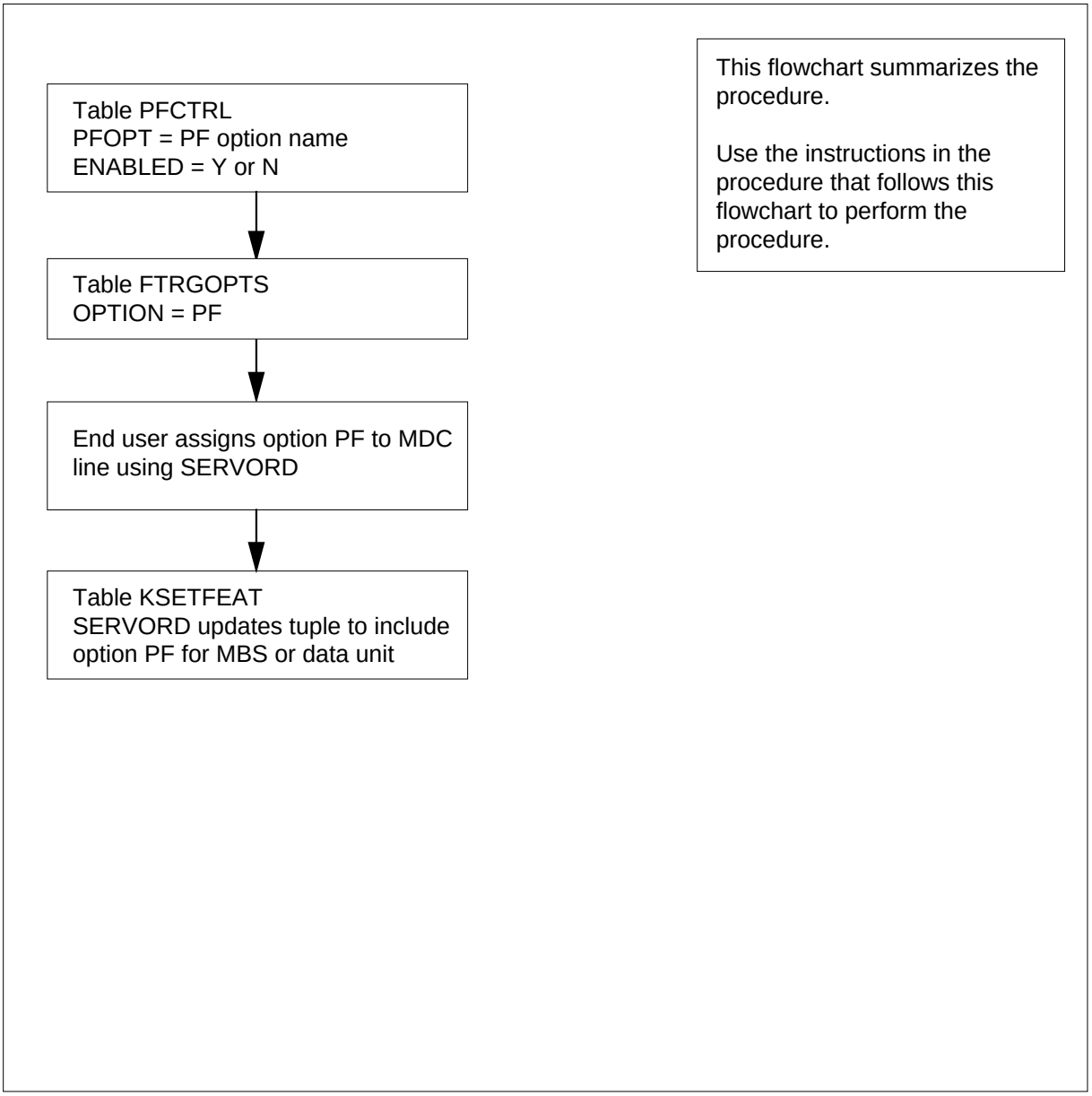
The PF Robustness - Call Pickup Separate Keys Compatibility translations tables are described in the following list:

- Table PFCTRL (Power Feature Control) defines access permissions for feature group end users.
- Table FTRGOPTS (Feature Group Options) assigns line options to all feature groups defined in an office.
- Table KSETFEAT (Business Set and Data-Unit Feature) lists the line features that are assigned to the business sets and data units listed in table KSETLINE (Business Set and Data-Unit Line Assignment). Each successful CPU key list change is reflected in tables KSETFEAT and KSETLINE. A TME log and journal file entry are output accordingly.

PF Robustness - Call Pickup Separate Keys Compatibility (continued)

The PF Robustness - Call Pickup Separate Keys Compatibility translation process is shown in the flowchart that follows.

Table flow for PF Robustness - Call Pickup Separate Keys Compatibility



PF Robustness - Call Pickup Separate Keys Compatibility (continued)

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

Datafill example for PF Robustness - Call Pickup Separate Keys Compatibility

Datafill table	Example data
PFCTRL	PFDEFAULT NAME N NPFDEFAULT CFI Y YPFDEFAULT PSWD Y NCLASSDSP NAME Y N
FTRGOPTS	PFGRP CFK CFK $
KSETFEAT	00 1 02 03 8 PF PF CFK Y 555-1234 CFD P CBU $

Limitations and restrictions

Option CPU can be added through PF only if CPU is enabled for the respective customer group.

Interactions

PF Robustness - Call Pickup Separate Keys Compatibility has no functionality interactions.

Activation/deactivation by the end user

The following figures illustrate the activation/deactivation for feature PF Robustness - Call Pickup Separate Keys Compatibility (CC) by the PF end user. All figures within this section illustrate a standard M5312 business set and a BRAMFT ISDN business set each configured as follows:

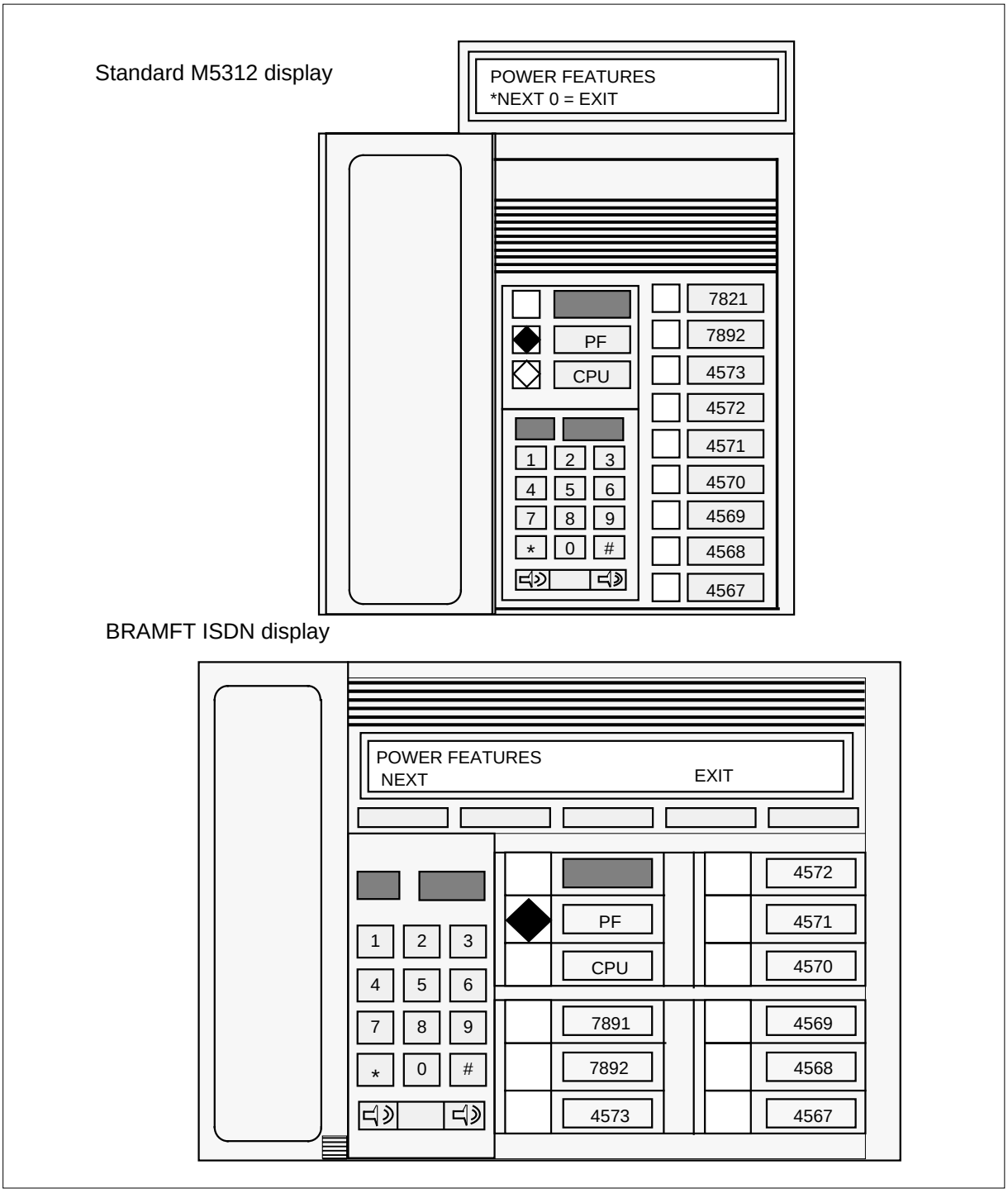
- Extensions 4567 through 4573 are within the primary DN customer group.
- Extensions 7891 and 7892 are not within the primary DN customer group.
- Extension 4567 is the primary DN.

PF initiation

The PF end user begins the PF session by pressing the key assigned to PF or by dialing the access code assigned to PF. Pressing the key illuminates the key lamp and displays the PF main menu. The following figure is an example of PF initiation.

PF Robustness - Call Pickup Separate Keys Compatibility (continued)

BRAMFT ISDN and standard M5312 business sets illustrating PF initiation

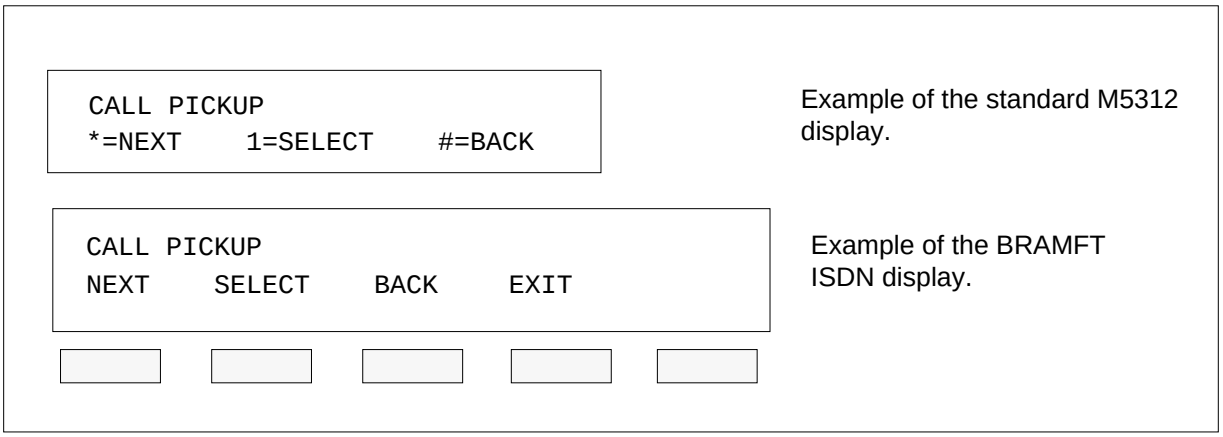


PF Robustness - Call Pickup Separate Keys Compatibility (continued)

Accessing the Call Pickup portion of PF

The PF end user may be using one of two types of business sets: the standard M5312 set or the BRAMFT ISDN set. The following figure shows the difference between the two displays.

Difference between the standard M5312 and the BRAMFT ISDN displays



The PF end user accesses option CPU by dialing the appropriate access code or by repeatedly entering option NEXT until the Call Pickup main menu is displayed. The end user then enters option SELECT.

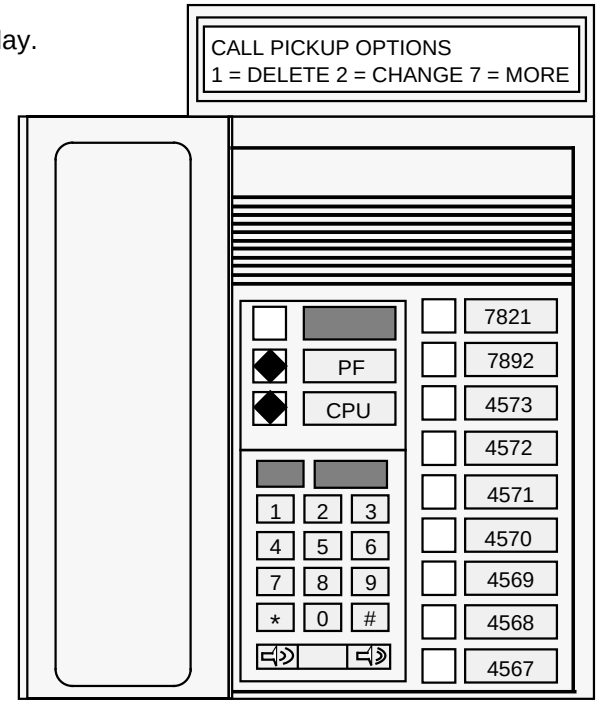
Call Pickup options

Entering option SELECT illuminates the CPU key lamp and provides the Call Pickup options menu as shown in the following figure.

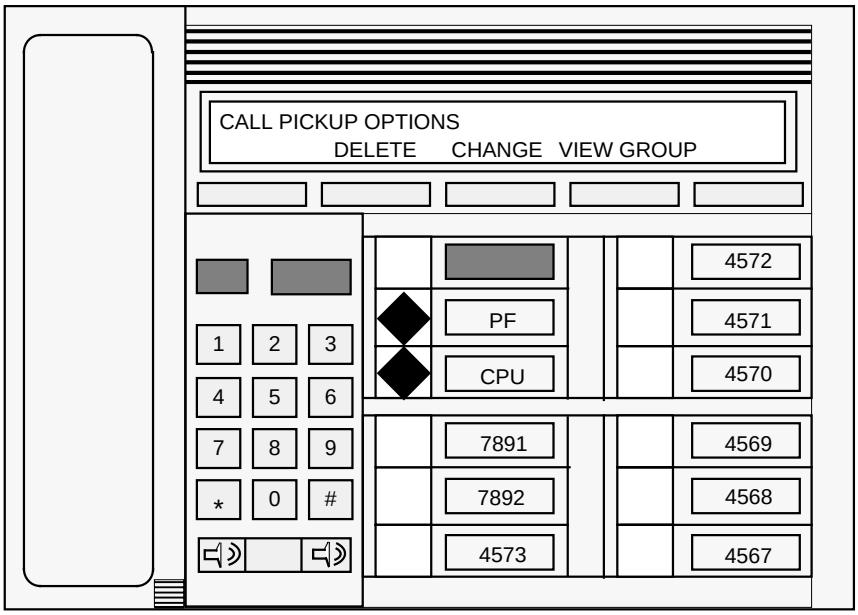
PF Robustness - Call Pickup Separate Keys Compatibility (continued)

Call Pickup options menu

Standard M5312 display.



BRAMFT ISDN display.



PF Robustness - Call Pickup Separate Keys Compatibility (continued)

Making changes to the Call Pickup key list

The option CHANGE is entered to modify the Call Pickup group key list as shown in the following figure.

Call Pickup change menu

```
SELECT TYPE OF CHANGE
1=GROUP    2=KEY_LIST
```

Standard M5312 display. The PF end user presses 2 to select option KEY_LIST.

```
SELECT TYPE OF CHANGE

GROUP    KEY_LIST EXIT
```

BRAMFT ISDN display. The PF end user presses option KEY_LIST.

ALL_LINES and MAIN_LINE options

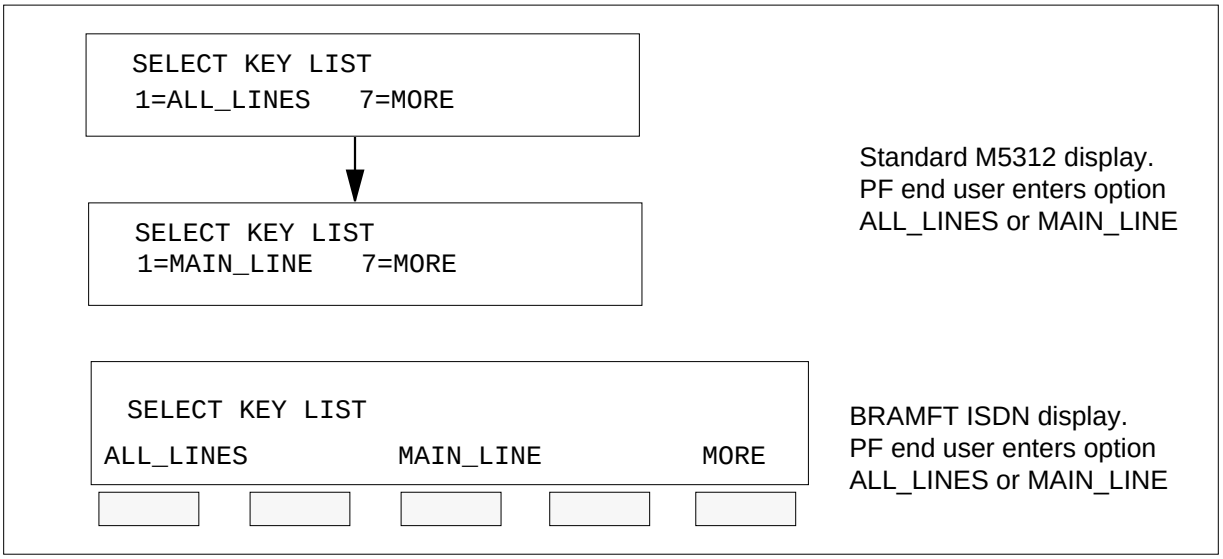
The PF end user enters option KEY_LIST and the menus shown in the following figure are provided.

The option ALL_LINES is entered to add all extensions on the set to the CPU key list. Only extensions which are part of the primary DN customer group can be added.

The option MAIN_LINE is entered to add only the primary DN in the CPU key list. The option MAIN_LINE removes all existing members from the CPU key list with the exception of the primary DN.

PF Robustness - Call Pickup Separate Keys Compatibility (continued)

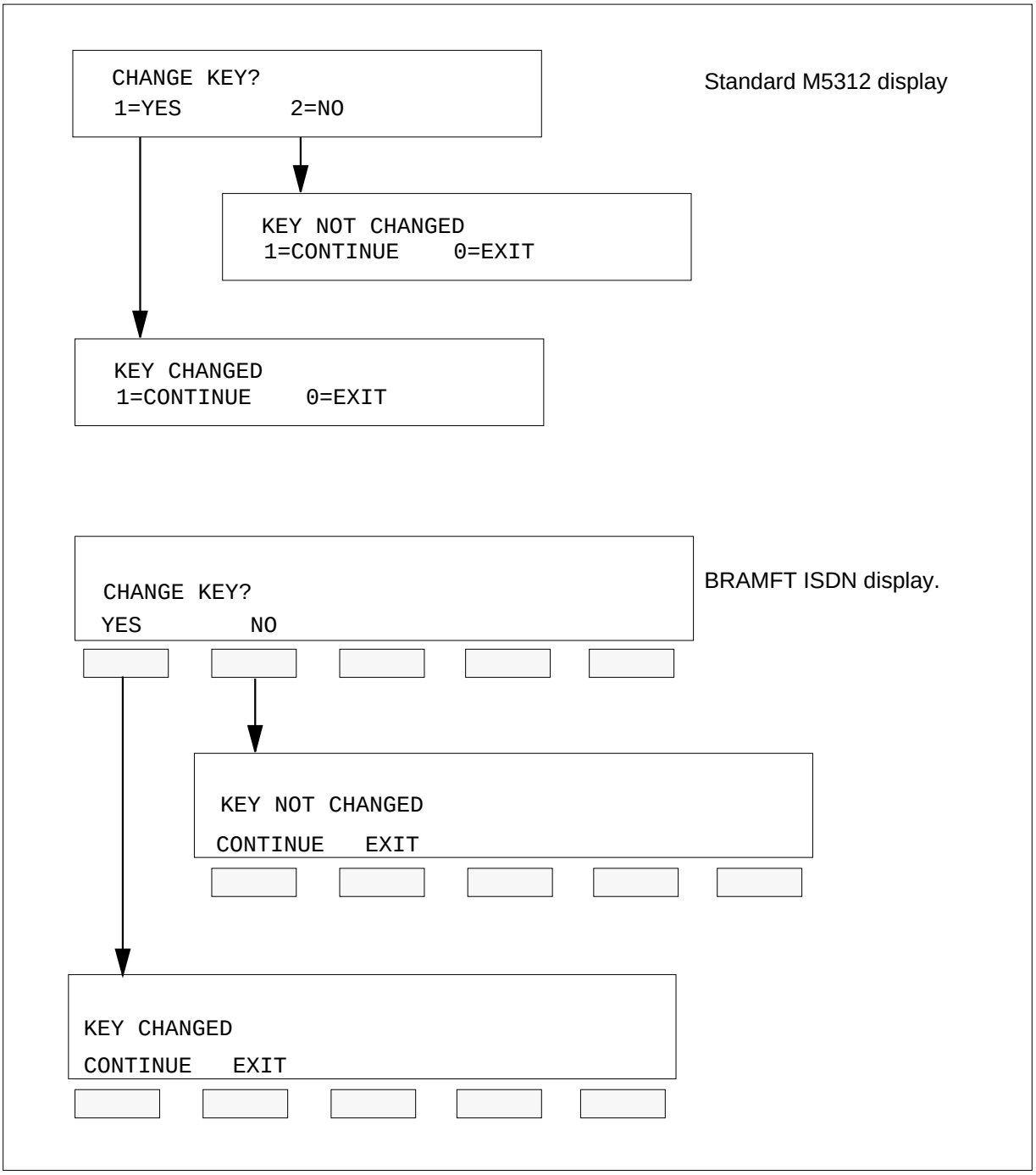
ALL_LINES and MAIN_LINE menus



When the PF end user enters option ALL_LINES or MAIN_LINE, the option CHANGE verification menus are shown in the following figure.

PF Robustness - Call Pickup Separate Keys Compatibility (continued)

Call Pickup change verification menus



SELECT_KEYS option

The option MORE is entered to selectively change the CPU key list. Refer to the previous figure ALL_LINES and MAIN_LINE menus. When option

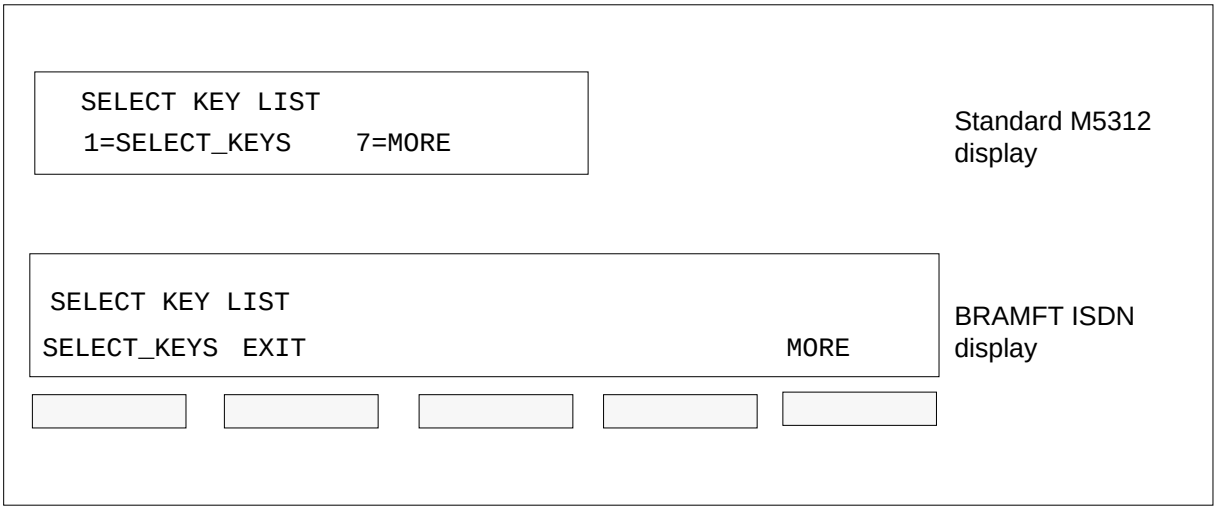
PF Robustness - Call Pickup Separate Keys Compatibility (continued)

MORE is entered, the PF end user is provided the menus shown in the following figure.

The option SELECT_KEYS permits the PF end user to modify the CPU key list.

The option SELECT_KEYS is entered, all key lamps corresponding to extensions that are currently a member of the CPU key list are illuminated, and the menu shown in the following figure allows the PF end user to alter the CPU key list.

SELECT_KEYS menu



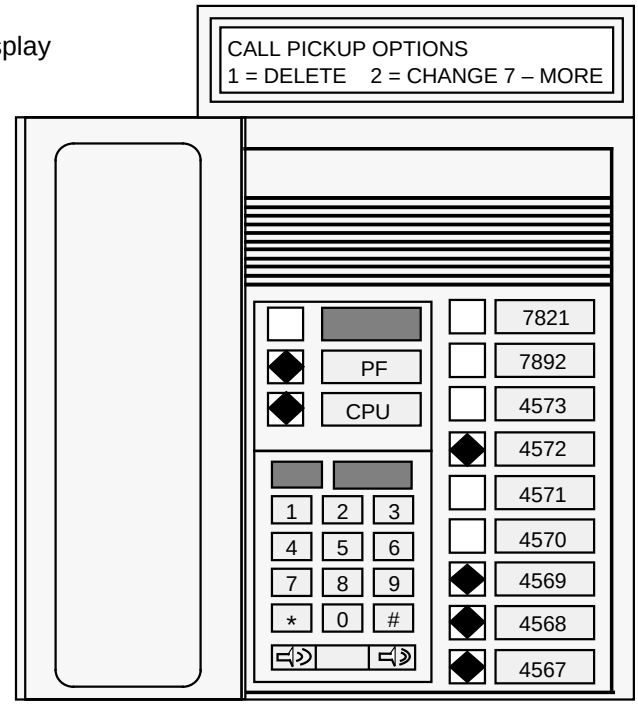
The PF end user alters the CPU key list by pressing the key to be changed. Pressing an extension key that has an illuminated lamp removes the extension from the CPU key list and extinguishes the lamp. Conversely, pressing an extension key that doesn't have an illuminated lamp adds the extension to the CPU key list and illuminates the lamp.

The following figure is an example showing the extensions 4567, 4568, 4569, and 4572 with their respective lamps lit as currently in the CPU key list.

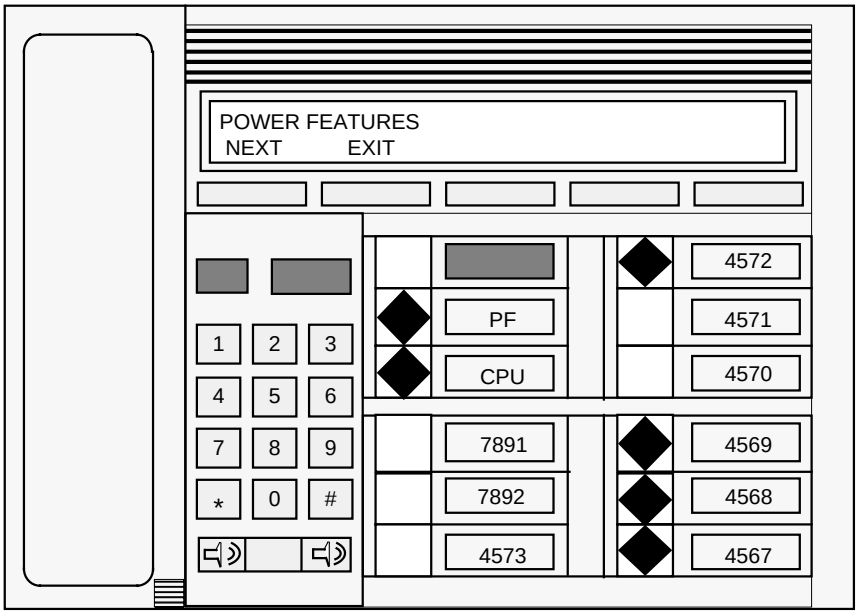
PF Robustness - Call Pickup Separate Keys Compatibility (continued)

SELECT_KEYS displayed on the standard M5312 and the BRAMFT ISDN

Standard M5312 display



BRAMFT ISDN display



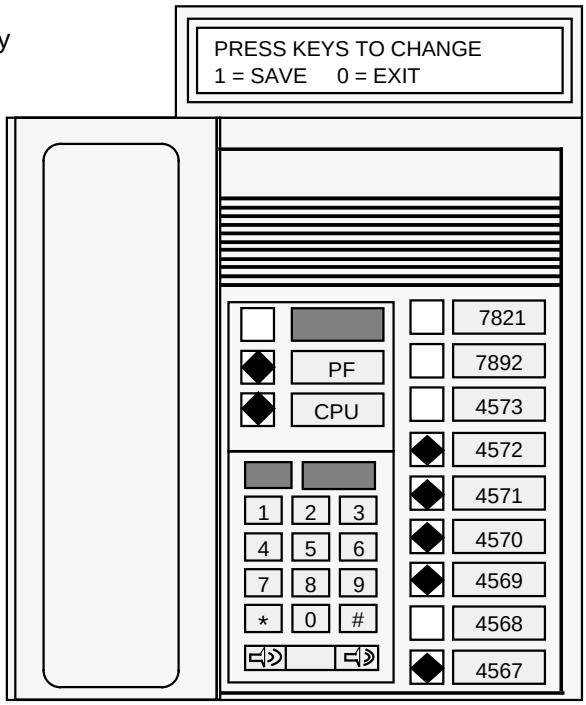
PF Robustness - Call Pickup Separate Keys Compatibility (continued)

The following figure is an example showing extensions 4570, 4571, added to the CPU key list with their respective lamps lit, and extension 4568 as deleted from the CPU key list with its respective lamp extinguished.

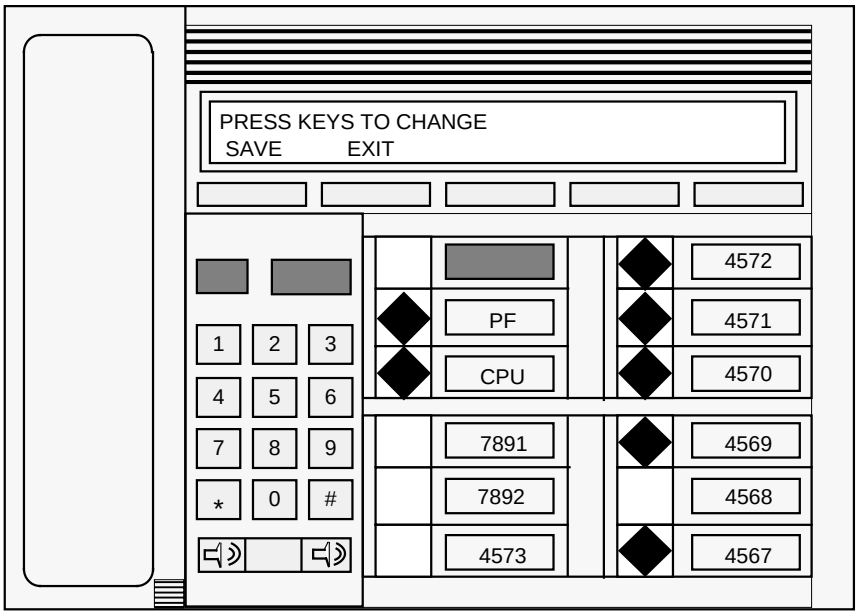
PF Robustness - Call Pickup Separate Keys Compatibility (continued)

Changes to the CPU key list displayed on the standard M5312 and the BRAMFT ISDN

Standard M5312 display



BRAMFT ISDN display



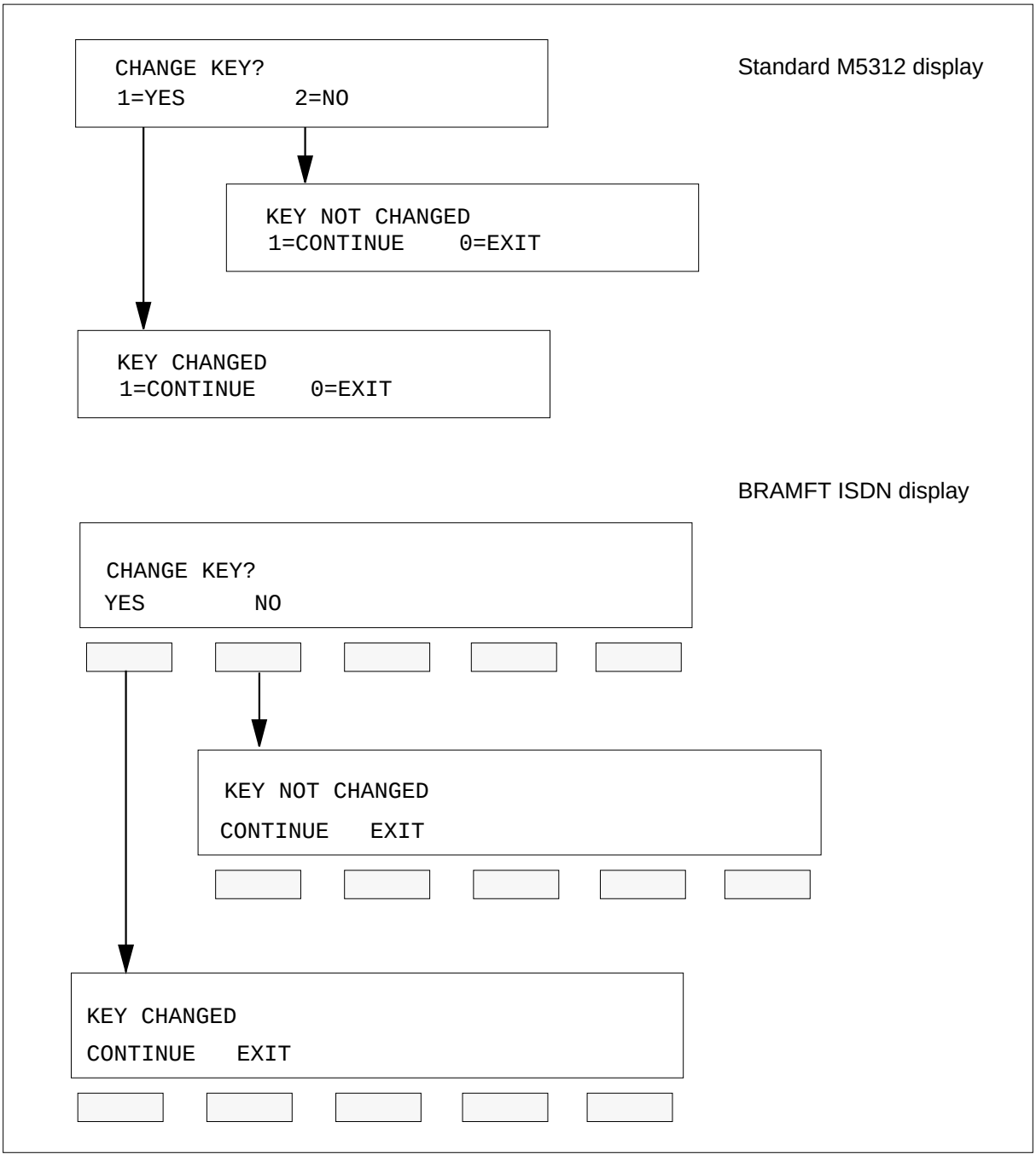
PF Robustness - Call Pickup Separate Keys Compatibility (continued)

When all changes are completed, the PF user enters option SAVE to commit the new Call Pickup key list.

After the PF end user enters option ALL_LINES, MAIN_LINE, or SAVE, the option CHANGE verification menus are shown in the following figure.

PF Robustness - Call Pickup Separate Keys Compatibility (continued)

Call Pickup change verification menus



PF Robustness - Call Pickup Separate Keys Compatibility (continued)

Error messages

The primary DN extension cannot be removed from the CPU key list. An attempt to remove the primary DN key results in the display shown in the following figure.

MAIN_LINE error message displays

```
MAIN LINE CAN NOT BE DELETED
1=CONTINUE
```

Standard M5312 display

BRAMFT ISDN display

```
MAIN LINE CAN NOT BE DELETED
                        CONTINUE
```

Only extensions that are part of the primary DN customer group can be added to the CPU key list. Any attempt to add an invalid key to the CPU key list results in the error message display shown in the following figure.

Invalid key error message displays

```
KEY CAN NOT BE ADDED TO LIST
1=CONTINUE
```

Standard M5312 display

BRAMFT ISDN display

```
KEY CAN NOT BE ADDED TO LIST
                        CONTINUE
```

When the maximum number of CPU key list entries (currently 24 keys) is reached, the PF end user receives the error message display shown in the following figure. If needed, the PF end user can alter the existing CPU key list accordingly.

PF Robustness - Call Pickup Separate Keys Compatibility (continued)

Invalid key error message displays

```
MAXIMUM NUMBER OF KEYS IN LIST
1=CONTINUE
```

Standard M5312 display

BRAMFT ISDN display

```
MAXIMUM NUMBER OF KEYS IN LIST
                        CONTINUE
```

Billing

PF Robustness - Call Pickup Separate Keys Compatibility does not affect billing.

Station Message Detail Recording

PF Robustness - Call Pickup Separate Keys Compatibility does not affect Station Message Detail Recording.

Datafilling office parameters

PF Robustness - Call Pickup Separate Keys Compatibility does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement PF Robustness - Call Pickup Separate Keys Compatibility. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for PF Robustness - Call Pickup Separate Keys Compatibility (Sheet 1 of 2)

Table	Purpose of table
PFCTRL	Power Feature Control. This table allows the operating company to control the options and features available to all PF end users except those receiving PF as part of a feature group.
FTRGOPTS	Feature Group Options. This table allows the operating company to control the options and features available to PF end users receiving PF as part of a feature group.

PF Robustness - Call Pickup Separate Keys Compatibility (continued)

Datafill tables required for PF Robustness - Call Pickup Separate Keys Compatibility (Sheet 2 of 2)

Table	Purpose of table
KSETFEAT	Business Set and Data Unit Feature. This table allows the end user to add PF to a customer group. ***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.

Datafilling table PFCTRL

The following table shows the datafill specific to PF Robustness - Call Pickup Separate Keys Compatibility for table PFCTRL. Only those fields that apply directly to PF Robustness - Call Pickup Separate Keys Compatibility are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table PFCTRL (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
CUSTGRP		1- to 16-character alphanumeric name	Customer Group Name. Specifies the name of the customer to which the data in this tuple applies. This name must be previously datafilled in table CUSTENG.
PFOPT		PF option	Power Feature Options. Specifies the name of a feature that can be assigned as a PF option. Each operating company office has an individualized list of PF options, depending on the feature packages loaded into the switch. Refer to tables IBNFEAT, KSETFEAT, and LENFEAT for a description of all the options. The current list of PFs is as follows:
		AAB	AAB (automatic answer back)
		ACB	ACB (automatic call back)
		ADMIN_CTRL	ADMIN_CTRL (administrator control)
		AUTODISP	AUTODISP (auto display)
		AUD	AUD (auto dial)

PF Robustness - Call Pickup Separate Keys Compatibility (continued)

Datafilling table PFCTRL (Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
		BLF	BLF (busy lamp field)
		CCV	CCV (call covering)
		CADDON	CADDON (configure add on)
		CPHONE	CPHONE (configure phone)
		CFI	CFI (call forwarding intragroup)
		CFU	CFU (call forwarding universal)
		CPU	CPU (call pickup)
		CWT	CWT (call waiting)
		DCPK	DCPK (directed call park)
		DRING	DRING (distinctive ringing)
		EMW	EMW (executive message waiting)
		FTRACT	FTRACT (feature activation)
		INSPECT	INSPECT (inspect)
		KEYDEF	KEYDEF (key definition)
		LANG	LANG (choose language)
		LVM	LVM (leave message)
		MSB	MSB (make set busy)
		MWT	MWT (message waiting)
		PF	PF (power feature)
		PRK	PRK (call park)
		PSWD	PSWD (alter password)
		PUB_NAME	PUB_NAME (public name)
		PVT_NAME	PVT_NAME (private name)
		QLEN	QLEN (query line equipment number)

PF Robustness - Call Pickup Separate Keys Compatibility (continued)

Datafilling table PFCTRL (Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
		QTD	QTD (query time and date)
		RAG	RAG (ring again)
		SLOCK	SLOCK (security lock)
		3WC	3WC (three-way calling)
ENABLED		Y or N	Enabled. Enter Y to enable the specific feature datafilled as a PF option in field PFOPT. Enter N to disable the specific feature.
AUDIT		Y or N	Audit. Enter Y to generate journal file entries and log reports to record PF usage. Otherwise, enter N.

Datafill example for table PFCTRL

The following example shows sample datafill for table PFCTRL.

MAP display example for table PFCTRL

```
CUSTGRP       PFOPT       ENABLED       AUDIT
_____________________________________________________
PFDEFAULT      NAME          N            N
PFDEFAULT      RAG           Y            Y
PFDEFAULT      PSWD          Y            N
CLASSDSP       NAME          Y            N
```

Datafilling table FTRGOPTS

The following table shows the datafill specific to PF Robustness - Call Pickup Separate Keys Compatibility for table FTRGOPTS. Only those fields that apply directly to PF Robustness - Call Pickup Separate Keys Compatibility are

PF Robustness - Call Pickup Separate Keys Compatibility (continued)

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

Datafilling table FTRGOPTS (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
FTRGRP		1- to 16-character alphanumeric name	Feature Group Name. Specifies the feature group name to which the option is assigned. Feature group names are defined by the customer.
OPTION		PFCNTL	Feature Group Option. Specifies the option corresponding to the acronym identifying one of the currently available PF group options.
OPTION		PFCNTL	Option. Specifies the name of the option feature group.
OPTVAR		see subfield	Option Variable Area. This field consists of subfield PFAPPL.
	OPTION	PFCNTL	Option. Enter the option PFCNTL.
	PFAPPL		Power Features applications. Enter up to nine of the following applications. If less than nine applications are required, end the list with a $ (dollar sign).
		AAB	AAB (automatic answer back)
		ACB	ACB (automatic call back)
		ADMIN_CTRL	ADMIN_CTRL (administrator control)
		AUTODISP	AUTODISP (auto display)
		AUD	AUD (auto dial)
		BLF	BLF (busy lamp field)
		CCV	CCV (call covering)
		CADDON	CADDON (configure add on)
		CPHONE	CPHONE (configure phone)
		CFI	CFI (call forwarding intragroup)
		CFU	CFU (call forwarding universal)

PF Robustness - Call Pickup Separate Keys Compatibility (continued)

Datafilling table FTRGOPTS (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
		CPU	CPU (call pickup)
		CWT	CWT (call waiting)
		DCPK	DCPK (directed call park)
		DRING	DRING (distinctive ringing)
		EMW	EMW (executive message waiting)
		FTRACT	FTRACT (feature activation)
		INSPECT	INSPECT (inspect)
		KEYDEF	KEYDEF (key definition)
		LANG	LANG (choose language)
		LVM	LVM (leave message)
		MSB	MSB (make set busy)
		MWT	MWT (message waiting)
		PFKEY	PFKEY (power feature key)
		PRK	PRK (call park)
		PSWD	PSWD (alter password)
		PUB_NAME	PUB_NAME (public name)
		PVT_NAME	PVT_NAME (private name)
		QLEN	QLEN (query line equipment number)
		QTD	QTD (query time and date)
		RAG	RAG (ring again)
		SLOCK	SLOCK (security lock)
		3WC	3WC (three-way calling)

Datafill example for table FTRGOPTS

The following example shows sample datafill for table FTRGOPTS.

PF Robustness - Call Pickup Separate Keys Compatibility (continued)

MAP display example for table FTRGOPTS

```
FTRGRP OPTION OPTION                                    OPTVAR
_____________________________________________________________
PFGRP   PF    PF (PSWD 111)(USER GENERAL)(LANG ENGLISH) $
PFGRP   PFCNTL PFCNTL                     (NAME) (PSWD) $
```

Translation verification tools

PF Robustness - Call Pickup Separate Keys Compatibility does not use translation verification tools.

SERVORD

The end user can receive PF capabilities individually or as part of a feature group. Individual sets may be provided PF by the addition of the option PF, either through SERVORD or direct modification of table KSETFEAT.

SERVORD limitations and restrictions

PF Robustness - Call Pickup Separate Keys Compatibility has no SERVORD limitations and restrictions.

SERVORD prompts

The following table shows the SERVORD prompts used to add PF Robustness - Call Pickup Separate Keys Compatibility to a key set.

SERVORD prompts for PF Robustness - Call Pickup Separate Keys Compatibility

Prompt	Valid input	Explanation
DN_OR_LEN	7-digit DN or LEN	Specifies the 7-digit DN or LEN of the line to be added.
OPTION	PF	Specifies the option to be added to the line.
CPU_LEN	1- to 4-character alphanumeric name + 7-digit LEN or LTID	Specifies the HOST plus the 7-digit LEN or logical identifier of the set to receive the CPU option.

SERVORD example for adding PF Robustness - Call Pickup Separate Keys Compatibility to a key set

The following SERVORD example shows how PF Robustness - Call Pickup Separate Keys Compatibility is added to an existing line on an MBS using the add option (ADO) command.

PF Robustness - Call Pickup Separate Keys Compatibility (end)

SERVORD example for PF Robustness - Call Pickup Separate Keys Compatibility in prompt mode

```
>ADO
SONUMBER:  NOW  94  07  01  PM
>
DN_OR_LEN:
> 0 1 1 24
OPTION:
> PF
CPU_LEN:
> 0 1 1 24
OPTION:
> $
```

SERVORD example for PF Robustness - Call Pickup Separate Keys Compatibility in no-prompt mode

```
>ADO $ 0 1 1 24 PF 0 1 1 24 $
```

Note: Table KSETFEAT is automatically datafilled when PF Robustness - Call Pickup Separate Keys Compatibility is assigned using SERVORD.

PF Robustness - Enforced Password

Ordering codes

Functional group ordering code: MDC00014

Functionality ordering code: not applicable

Release applicability

DMS100C03 and up

Prerequisites

PF Robustness - Enforced Password has no prerequisites.

Description

Power Features (PF) refers to the capability of an end user to manipulate selected features and options from a Meridian business set (MBS) equipped with a display. Certain features normally manipulated by the Service Order System (SERVORD) or table control may be added, changed, or deleted.

PF users are divided into two distinct classes:

- GENERAL users (have ability to alter feature data pertaining to their set)
- ADMIN users (have GENERAL user capabilities plus limited access to feature data belonging to other sets in the customer group)

Feature PF Robustness - Enforced Password (CC) introduces the requirement for all PF end users to password protect PF access on an MDC MBS Interactive Display.

Operation

PF end users are required to establish and maintain a password. The following characteristics collectively provide the functionality to enforce maintenance of passwords:

- requires PF end users without a password to assign a password the first time PF is accessed
- prevents PF end users from deleting their password, but allows them to change it
- provides initial password addition privileges to PF end users independent of password modification privileges as datafilled in table PFCTRL (Power Feature Control) or table FTRGOPTS (Feature Group Options)

PF Robustness - Enforced Password (continued)

Feature PF Robustness - Enforced Password (CC) requires all PF end users to maintain a password at all times. To achieve this functionality, the three following criteria are implemented:

- Mandatory Addition of Password—requires PF end users without a password to assign a password the first time PF is accessed
- Prohibit Deletion of Power Features Password—prohibits PF end users from deleting their password
- Password Addition Independent of table PFCTRL or table FTRGOPTS Datafill—requires all PF end users to add a password regardless of password modification privileges as datafilled in table PFCTRL or table FTRGOPTS

Mandatory Addition of Password

Feature PF Robustness - Enforced Password (CC) requires PF end users without a password to assign a password the first time PF is accessed. Initially, new PF end users may or may not have a password associated with their set. The operating company may assign a permanent password at the time of datafill by utilizing option PSWD, and those PF end users are not impacted by feature PF Robustness - Enforced Password (CC) except that they cannot delete their password. PF end users without an assigned password are impacted by feature PF Robustness - Enforced Password (CC).

As part of the Dump and Restore process, all existing PF end user passwords are copied to the new load. If an existing PF end user chose not to have a password prior to the Dump and Restore process, then that PF end user is impacted by feature PF Robustness - Enforced Password (CC).

Prohibit Deletion of Power Features Password

Feature PF Robustness - Enforced Password (CC) prohibits PF end users from deleting their password. Option DELETE is removed by feature PF Robustness - Enforced Password (CC) for both GENERAL and ADMIN level end users.

ADMIN level end users continue to have the capability of deleting passwords through Administrator Control. This provides ADMIN level end users the capability of resetting or changing individual passwords upon request from PF end users. An example of the purpose of this functionality is resetting or changing the password in the event PF end users forget their PF password.

Password Addition Independent of table PFCTRL or table FTRGOPTS Datafill

The requirement for PF end users lacking a password to assign one upon primary access of PF is independent of password modification privileges as

datafilled in table PFCTRL or table FTRGOPTS. PF end users who do not have password modification privileges through table PFCTRL or table FTRGOPTS are required to add the password.

The operating company may continue to restrict groups of PF end users from accessing password modification capabilities (other than the initial password addition) by using option PSWD in table PFCTRL or option in table FTRGOPTS.

Translations table flow

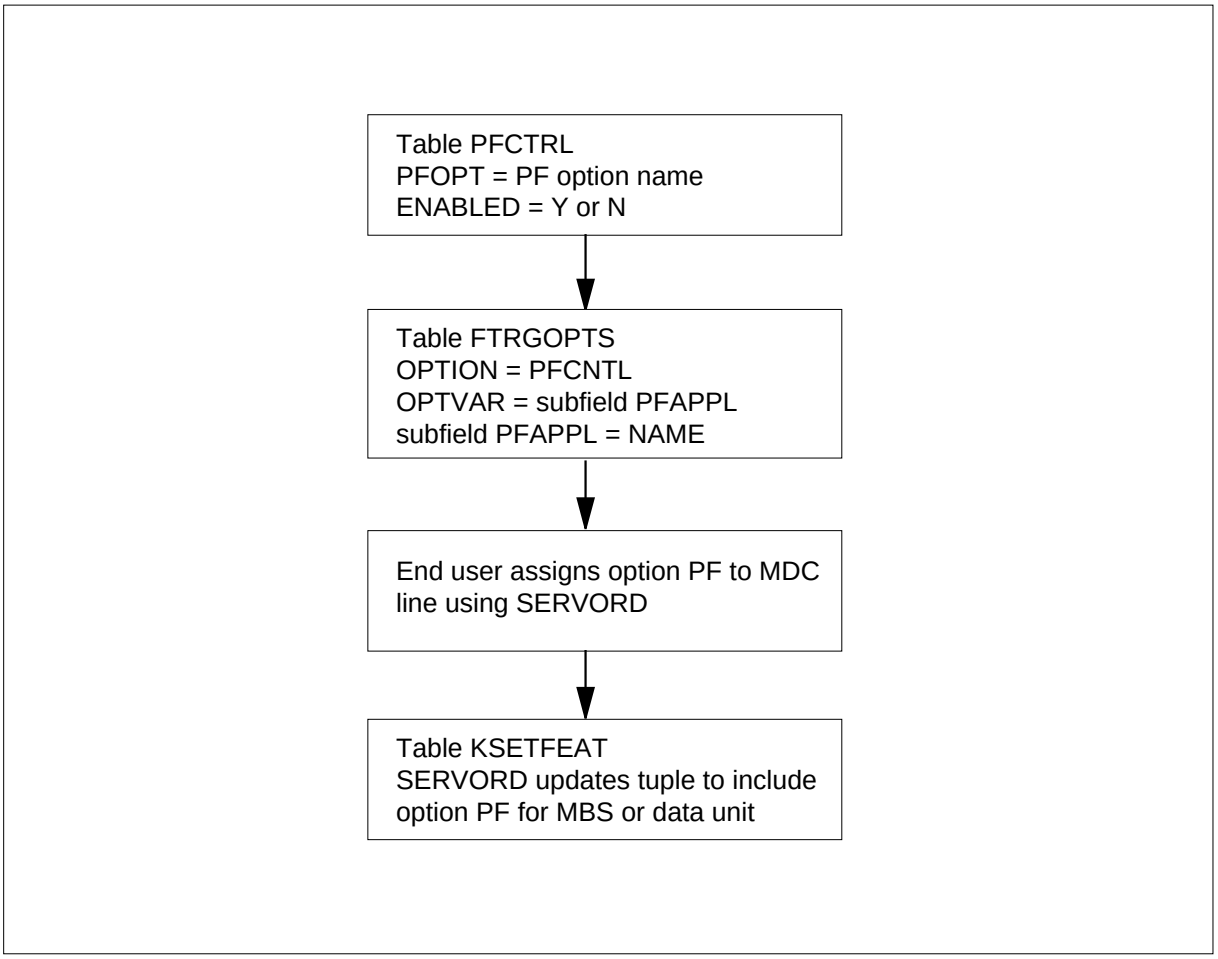
The PF Robustness - Enforced Password translations tables are described in the following list:

- Table PFCTRL defines access permissions for PF end users.
- Table FTRGOPTS assigns line options to all feature groups defined in an office. PF Robustness - Enforced Password (CC) enables operating company personnel to select the features that can be chosen by PF end users receiving PF as part of a feature group.
- Table KSETFEAT (Business Set and Data-Unit Feature) lists the line features that are assigned to the business sets and data units listed in table KSETLINE (Business Set and Data-Unit Line Assignment).

The PF Robustness - Enforced Password translation process is shown in the flowchart that follows.

PF Robustness - Enforced Password (continued)

Table flow for PF Robustness - Enforced Password



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

Datafill example for PF Robustness - Enforced Password

Datafill table	Example data
PFCTRL	PFDEFAULT NAME Y N PFDEFAULT RAG N N CUSTGRP1 NAME N W CUSTGRP2 RAG Y Y
FTRGOPTS	PFGRP PF PF (PSWD 111) (USER GENERAL) (LANG ENGLISH) $PFGRP PFCNTL PFCNTL (NAME) (PSWD) $
KSETFEAT	00 1 02 03 8 PF PF PWSD 123 $

PF Robustness - Enforced Password (continued)

Limitations and restrictions

PF Robustness - Enforced Password requires all PF end users, without a password associated with their business set, to add a password at the time PF is first accessed.

Interactions

PF Robustness - Enforced Password has no functionality interactions.

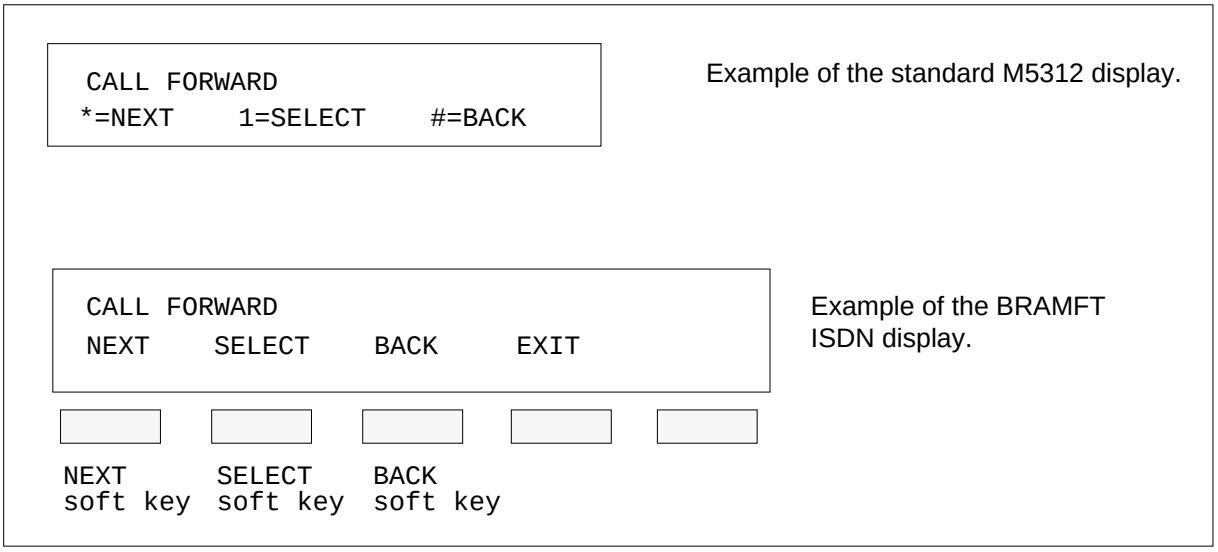
Activation/deactivation by the end user

The two following figures document the display sequence for the addition of a password at the time PF is first accessed. This sequence is a subset of the existing Change Password sequence with the exception of one new display. All displays shown are existing PF displays except where indicated.

Example of PF Robustness - Enforced Password (CC) User Interface

The PF end user may be using one of two types of phone sets; the standard M5312 display and the BRAMFT ISDN phone display. The following figure shows the difference between the two displays. All subsequent displays will be shown in M5312 format only.

Difference between the standard M5312 and the BRAMFT ISDN displays



PF Robustness - Enforced Password (continued)

Standard M5312 displays for PF Robustness - Enforced Password (CC)

POWER FEATURES ENTER NEW PASSWORD	End user activates PF either by using a dedicated key or defined access code. End user is prompted to enter a new password. This is a new display introduced by feature PF Robustness – Enforced Password (CC).
--- *=< - - HOLD=OK	End user enters new password. In this example, end user enters 123 followed by the HOLD key.
PASSWORD VALID REENTER TO VERIFY	Entered password (123) is determined to be valid. A valid password is one that is 3 - 6 digits in length.
--- *=< - - HOLD=OK	End user reenters password of 123 and depresses the HOLD key.
PASSWORD UPDATED 1=CONTINUE 0=EXIT	End user receives confirmation. End user's password of 123 has been added. End user selects digit (1=continue).
POWER FEATURES *=NEXT 0=EXIT	End user receives standard PF initiation display. End user now proceeds with the PF session.

PF Robustness - Enforced Password (continued)

Standard M5312 displays for PF Robustness - Enforced Password (CC) Incorrect Password

`POWER FEATURES` `ENTER NEW PASSWORD`	End user activates PF either by using a dedicated key or defined access code. End user is prompted to enter a new password. This is a new display introduced by feature PF Robustness – Enforced Password (CC). If the end user at this point does not enter the correct (expected) password, the following display appears.
`INVALID PASSWORD` `REENTER PASSWORD`	End user is given another opportunity to enter the correct password. If the password is entered correctly, the sequence proceeds normally. Entering the password incorrectly for the second time causes the PF session to be released (set returns to idle) and the following display appears.
`PSWD MUST BE 3 – 6 DIGITS` `REENTER PASSWORD`	End user is given another opportunity to enter an acceptable password. Entering an unacceptable password for the second time causes the PF session to be released (set returns to idle). If an acceptable password is entered, the sequence proceeds normally. End user receives standard PF initiation display. End user now proceeds with the PF session as in the previous figure.

The following figure illustrates a modification to an existing display which prohibits password deletion by a PF end user.

MBS Displays for PF Robustness - Enforced Password to Prohibit Password Deletion

`PASSWORD VALID` `1=CHANGE  2=DELETE  0=EXIT`	Feature PF Robustness – Enforced Password (CC) has modified this display to prevent PF end users from deleting their password.
`PASSWORD VALID` `1=CHANGE  0=EXIT`	Feature PF Robustness – Enforced Password (CC) introduces this display to prevent PF end users from deleting their password.

ADMIN level end users are still able to delete passwords through Administrator Control when requested by PF end users. This functionality is useful to reset or change the password in the event PF end users forget their password.

PF Robustness - Enforced Password (continued)

Billing

PF Robustness - Enforced Password does not affect billing.

Station Message Detail Recording

PF Robustness - Enforced Password does not affect Station Message Detail Recording.

Datafilling office parameters

PF Robustness - Enforced Password does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement PF Robustness - Enforced Password. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for PF Robustness - Enforced Password

Table	Purpose of table
PFCTRL	Power Feature Control. This table allows the operating company to control the options and features available to all PF end users except those receiving PF as part of a feature group.
FTRGOPTS	Feature Group Options. This table allows the operating company to control the options and features available to PF end users receiving PF and is datafilled when PF is received as part of a customer group.
KSETFEAT	Business Set and Data Unit Feature. This table allows the end user to add PF to a business set. ***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.

Datafilling table PFCTRL

The following table shows the datafill specific to PF Robustness - Enforced Password for table PFCTRL. Only those fields that apply directly to PF

PF Robustness - Enforced Password (continued)

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

Datafilling table PFCTRL (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
CUSTGRP		1- to 16-character alphanumeric name	Customer Group Name. Specifies the name of the customer to which the data in this tuple applies. This name must be previously datafilled in table CUSTENG.
PFOPT		PF option	Power Feature Options. Specifies the name of a feature that can be assigned as a PF option. Each operating company office has an individualized list of PF options, depending on the feature packages loaded into the switch. Refer to tables IBNFEAT, KSETFEAT, and LENFEAT for a description of all the options. The current list of PFs is as follows:
		AAB	AAB (automatic answer back)
		ACB	ACB (automatic call back)
		ADMIN_CTRL	ADMIN_CTRL (administrator control)
		AUTODISP	AUTODISP (auto display)
		AUD	AUD (auto dial)
		BLF	BLF (busy lamp field)
		CCV	CCV (call covering)
		CADDON	CADDON (configure add on)
		CPHONE	CPHONE (configure phone)
		CFI	CFI (call forwarding intragroup)
		CFU	CFU (call forwarding universal)
		CPU	CPU (call pickup)
		CWT	CWT (call waiting)
		DCPK	DCPK (directed call park)

PF Robustness - Enforced Password (continued)

Datafilling table PFCTRL (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
		DRING	DRING (distinctive ringing)
		EMW	EMW (executive message waiting)
		FTRACT	FTRACT (feature activation)
		INSPECT	INSPECT (inspect)
		KEYDEF	KEYDEF (key definition)
		LANG	LANG (choose language)
		LVM	LVM (leave message)
		MSB	MSB (make set busy)
		MWT	MWT (message waiting)
		PF	PF (power feature)
		PRK	PRK (call park)
		PSWD	PSWD (alter password)
		PUB_NAME	PUB_NAME (public name)
		PVT_NAME	PVT_NAME (private name)
		QLEN	QLEN (query line equipment number)
		QTD	QTD (query time and date)
		RAG	RAG (ring again)
		SLOCK	SLOCK (security lock)
		3WC	3WC (three-way calling)
ENABLED		Y or N	Enabled. Enter Y to enable the specific feature datafilled as a PF option in field PFOPT. Enter N to disable the specific feature.
AUDIT		Y or N	Audit. Enter Y to generate journal file entries and log reports to record Power Features usage. Otherwise, enter N.

Datafill example for table PFCTRL

The following example shows sample datafill for table PFCTRL.

MAP display example for table PFCTRL

```
CUSTGRP       PFOPT       ENABLED       AUDIT
_____________________________________________________
PFDEFAULT      NAME          Y            N
PFDEFAULT      RAG           N            N
CUSTGRP1       NAME          N            N
CUSTGRP2       RAG           Y            Y
```

Datafilling table FTRGOPTS

The following table shows the datafill specific to PF Robustness - Enforced Password for table FTRGOPTS. Only those fields that apply directly to PF Robustness - Enforced Password are shown. For a description of the other fields, refer to the data schema section of this document.+

Datafilling table FTRGOPTS (Sheet 1 of 3)

Field	Subfield or refinement	Entry	Explanation and action
FTRGRP		1- to 16-character alphanumeric name	Feature Group Name. Specifies the feature group name to which the option is assigned. Feature group names are defined by the customer.
OPTION		PFCNTL	Feature Group Option. Specifies the option corresponding to the acronym identifying one of the currently available PF group options.
OPTION		PFCNTL	Option. Enter the AFG supported line option. If OPTS is entered, prompts appear for subsequent entries. This entry must agree with previous field OPTION.
OPTVAR		see subfield	Option Variable Area. This field consists of subfield OPTION and refinement PFAPPL.
	OPTION	PFCNTL	Option. Enter the option PFCNTL.
	PFAPPL		Power Features applications. Enter up to nine of the following applications. If less than nine applications are required, end the list with a $ (dollar sign).
		AAB	AAB (automatic answer back)

PF Robustness - Enforced Password (continued)

Datafilling table FTRGOPTS (Sheet 2 of 3)

Field	Subfield or refinement	Entry	Explanation and action
		ACB	ACB (automatic call back)
		ADMIN_CTRL	ADMIN_CTRL (administrator control)
		AUTODISP	AUTODISP (auto display)
		AUD	AUD (auto dial)
		BLF	BLF (busy lamp field)
		CCV	CCV (call covering)
		CADDON	CADDON (configure add on)
		CPHONE	CPHONE (configure phone)
		CFI	CFI (call forwarding intragroup)
		CFU	CFU (call forwarding universal)
		CPU	CPU (call pickup)
		CWT	CWT (call waiting)
		DCPK	DCPK (directed call park)
		DRING	DRING (distinctive ringing)
		EMW	EMW (executive message waiting)
		FTRACT	FTRACT (feature activation)
		INSPECT	INSPECT (inspect)
		KEYDEF	KEYDEF (key definition)
		LANG	LANG (choose language)
		LVM	LVM (leave message)
		MSB	MSB (make set busy)
		MWT	MWT (message waiting)
		PFKEY	PFKEY (power feature key)
		PRK	PRK (call park)

Datafilling table FTRGOPTS (Sheet 3 of 3)

Field	Subfield or refinement	Entry	Explanation and action
		PSWD	PSWD (alter password)
		PUB_NAME	PUB_NAME (public name)
		PVT_NAME	PVT_NAME (private name)
		QLEN	QLEN (query line equipment number)
		QTD	QTD (query time and date)
		RAG	RAG (ring again)
		SLOCK	SLOCK (security lock)
		3WC	3WC (three-way calling)

Datafill example for table FTRGOPTS

The following example shows sample datafill for table FTRGOPTS.

MAP display example for table FTRGOPTS

```
FTRGRP OPTION OPTION                                  OPTVAR
_____________________________________________________________
PFGRP   PF    PF (PSWD 111)(USER GENERAL)(LANG ENGLISH) $
PFGRP   PFCNTL PFCNTL                     (NAME) (PSWD) $
```

Translation verification tools

PF Robustness - Enforced Password does not use translation verification tools.

SERVORD

The end user can receive PF capabilities individually or as part of a feature group. Individual sets may be provided PF by the addition of the option PF either through SERVORD or direct modification of table KSETFEAT.

SERVORD limitations and restrictions

PF Robustness - Enforced Password has no SERVORD limitations and restrictions.

PF Robustness - Enforced Password (continued)

SERVORD prompts

The following table shows the SERVORD prompts used to add PF Robustness - Enforced Password to a key set.

SERVORD prompts for PF Robustness - Enforced Password

Prompt	Valid input	Explanation
DN_OR_LEN	7-digit DN or LEN	Specifies the 7-digit DN or LEN of the line to be added.
OPTKEY	1 to 69 for MBS	Specifies the number of the key to which option PF is to be assigned.
OPTION	PF	Specifies the option to be added to the line.
PFOPT	USER,LANGPS WDLOCK	Specifies a PF suboption. Enter USER to specify the class of user (general or administrator). Enter LANG to specify English or French. Enter PSWD to specify a numeric password of up to 6 digits.
USER	GENERAL, ADMIN	Specifies the class of the end user. Enter GENERAL (the default value) to specify that end users can only alter PF on their own sets. Enter ADMIN to specify that administrators can alter PF on any set in the customer group.
PASSWORD	6-digit numeric string	Specifies the password. Enter a number up to six digits consisting of the numerals 0 to 9.

SERVORD example for adding PF Robustness - Enforced Password to a key set

The following SERVORD example shows how PF Robustness - Enforced Password is added to an existing line on an MBS using the ADO (add option) command.

PF Robustness - Enforced Password (end)

SERVORD example for PF Robustness - Enforced Password in prompt mode

```
>ADO
SONUMBER:  NOW  94  07  01  PM
>
DN_OR_LEN:
> 0  0  10  21
OPTKEY:
> 1
OPTION:
> PF
PFOPT:
> USER
USER:
> GENERAL
PFOPT:
> PSWD
PASSWORD:
> 123
PFOPT:
> $
OPTKEY:
> $
```

SERVORD example for PF Robustness - Enforced Password in no-prompt mode

```
>ADO  $  0 0 10 21  1  PF  USER  GENERAL  PSWD  123  $  $
```

Note: Table KSETFEAT is automatically datafilled when PF Robustness - Enforced Password is assigned using SERVORD.

5 Datafilling MDC Tailored MDC 4

The following chapter describes the MDC Tailored MDC 4, MDC00015, functionality.

MDC DSS/BLF Set Based

Ordering codes

Functional group ordering code: MDC00015

Functionality ordering code: not applicable

Release applicability

EUR010 and up

Prerequisites

MDC DSS/BLF Set Based has no prerequisites.

Description

The Set-Based Busy Lamp Field/Direct Station Select (SBLF/DSS) is an optional key feature for the Meridian Business Set (MBS). The SBLF/DSS supports the following functionalities:

- SBLF allows the MBS end user to monitor the busy or idle state of a telephone using the MBS lamp states.
- DSS provides direct dialing to a monitored directory number (DN) by selecting the feature key.
- SBLF monitors variable-length DNs of up to 15 digits, provided the office parameter ACTIVE_DN_SYSTEM is set to UNIVERSAL.

The 500/2500 set or the business sets with line class codes (LCC) PSET, M5009, M5209, M5112, M5212, or M5312 are the types of telephones monitored by the SBLF feature. A DSS DN on the monitored set is a member of the same customer group family and switch as the primary DN (PDN) of the business set monitoring it.

The PSET, M5009, M5209, M5112, M5212, M5312, and the ISDN sets M5209T and M5317T are the types of business sets assigned the SBLF feature key to monitor other sets. The lamp state of the feature key reflects the idle or busy state of the telephone. The lamp for the SBLF feature key turns off when the monitored set is idle.

MDC DSS/BLF Set Based (continued)

The following information summarizes the activities on the monitored sets and the corresponding SBLF indications.

SBLF Indications

SBLF Indication	Set Activity
Busy (lamp on)	Offhook
	Dialing digits
	Receiving physical ringing
	MSB or DND active
	DN active on call, receiving a treatment, talking, or calls on hold including MADN hold, permanent hold, or local hold
Idle	Onhook and without any of the above features active on the DN
	DN is taken out of service

The SBLF/DSS provides the end user of the monitoring set with the following functions for the monitored set:

- The busy or idle condition of the monitored set is specified against the SBLF key and lamp.
- The SBLF/DSS key is used to autodial the monitored set on the directory number associated with the SBLF/DSS key, establish a three way call (3WC), or transfer a call to a monitored set.
- If the SBLF lamp is on indicating the DSS DN on the monitored set is active, the feature allows the use of DSS to camp-on a call to the DSS DN and notify the user of the monitored set through normal camp-on operation.
- If the SBLF lamp on the monitoring set is on because of a DN other than the DSS DN being active on the monitored set, the DSS capability is treated as an ordinary incoming call to the DSS DN on the monitored set.

The SBLF feature is assigned through the Service Order system (SERVORD) and identified in table KSETFEAT (Business Set and Data-Unit Feature). The SBLF feature is assigned to any number of keys with a lamp on a business set or add-on module. A specific station is monitored simultaneously by a maximum of eight BLF/SBLF keys.

MDC DSS/BLF Set Based (continued)

Power feature applications

Power features allow the end user to add or delete the SBLF key from a set or change the DSS DN on an existing SBLF key. See “Activation/deactivation by the end user" in this document for more information.

Operation

The operation of the SBLF feature is split into two parts:

- busy lamp field
- direct station select

Busy lamp field

The lamp state of the monitored set is updated on the monitoring set without any interactions from the end user as soon as the SBLF feature is assigned to a key on the MBS.

The two lamp states are lamp off and lamp on. Lamp off indicates an idle set. Lamp on indicates there is at least one busy DN on the set. A busy state is a result of an active call or ringing of an incoming call on the set.

Direct station select

The direct station select allows the end user to place a call to the monitored set by depressing a DN key and then the SBLF key associated with the monitored set.

The procedure to transfer a call or establish a 3WC using the SBLF key is the same as dialing the monitored set manually. The end user presses the 3WC with a call active on the set. A special dial tone is given. The end user presses the SBLF key and does one of the following:

- press the 3WC key and the release key (RLS) to transfer a call
- wait for the monitored set to answer, consult privately with the called party, and press the 3WC key again to establish a three-way call
- alternate between the calling and the called party by alternately pressing the active DN key and the 3WC key

Translations table flow

The MDC DSS/BLF Set MDC DSS/BLF Set-Based translations tables are described in the following list:

- Table KSETLINE (Business Set and Data Unit Line Assignment) defines the business set and data unit numbers supported by the switch and the hardware options assigned to each. This table is datafilled when the line is assigned through SERVORD. This table is assigned prior to table

MDC DSS/BLF Set Based (continued)

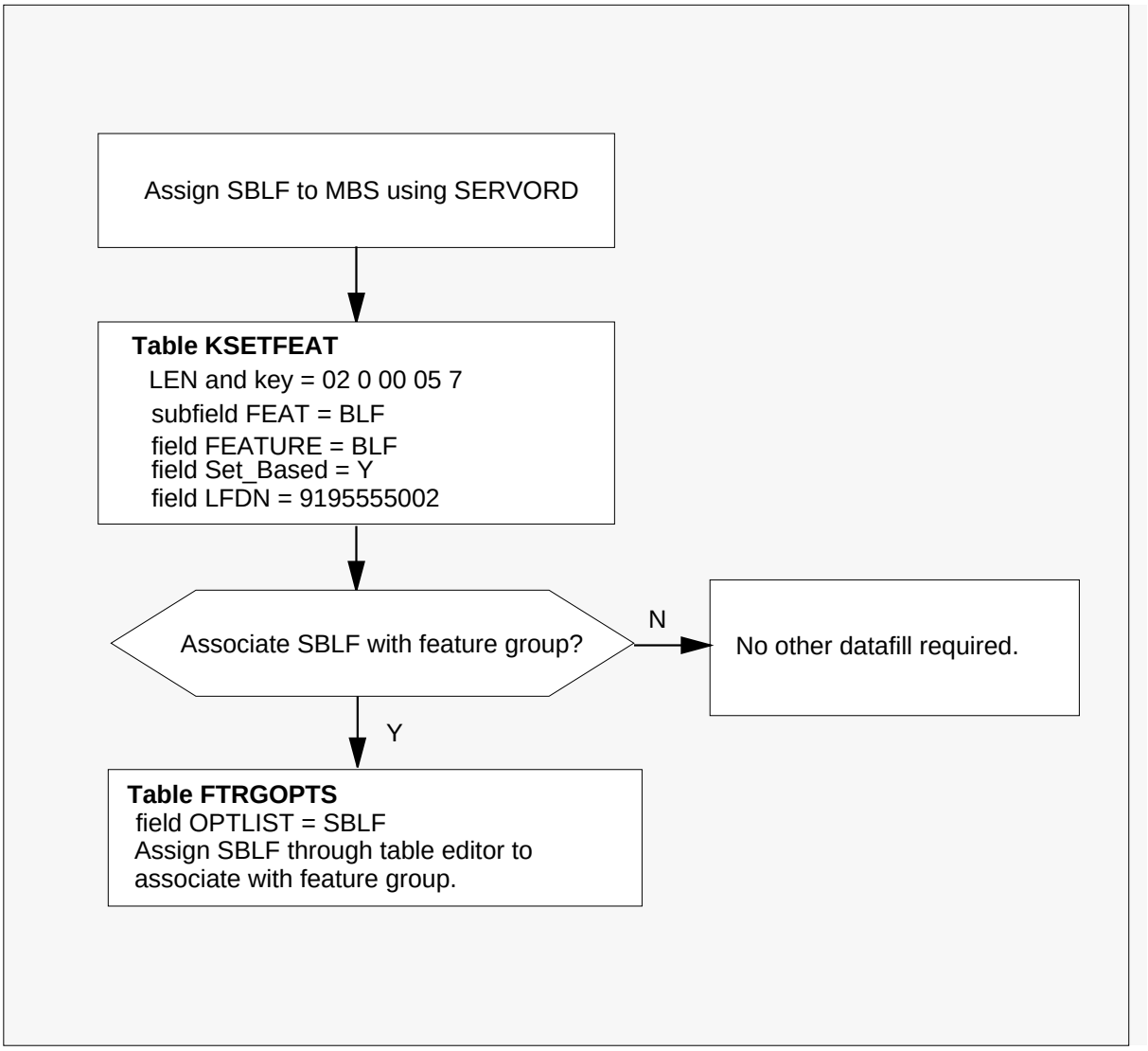
KSETFEAT to ensure the SBLF DN is datafilled against a line equipment number (LEN)MDC DSS/BLF Set Based

- Table KSETFEAT (Business Set and Data Unit Feature) lists the line features that are assigned to the MBSs listed in table KSETLINE. One entry is required for each feature that is assigned to an MBS line. This table is datafilled when option SBLF is assigned to a feature key in SERVORD. The fields FEAT and FEATURE specify the BLF option. The field SET_BASED is set to “Y" if SBLF applies or “N" if BLF applies to the set. A subfield BLFDN specifies the DSS DN for which the SBLF feature is to monitor. A value of “N" is entered in field BLFDN to indicate an unassigned DSS DN. This value only appears if the DSS DN is removed through SERVORD. A monitored DN is 10 digits in length and is entered at the time MDC DSS/BLF Set Based is assigned.
- Table FTRGOPTS (Feature Group Options) is used to assign line options to all feature groups defined in an office. The option SBLF feature is included in the line options list for feature groups.

The MDC DSS/BLF Set Based translation process is shown in the following flowchart.

MDC DSS/BLF Set Based (continued)

Table flow for MDC DSS/BLF Set Based



The following table lists the datafill content used in the flowchart. The SBLF option is assigned to key seven of the business set, 02 0 00 05. The DSS DN of the monitored set is 9195555002.

Datafill example for MDC DSS/BLF Set Based

Datafill table	Example data
KSETLINE	HOST 02 0 00 05 7 DN Y 5555002 MDCGRP1 0 0 919 $
KSETFEAT	HOST 02 0 00 05 7 BLF BLF Y 9195555002
FTRGOPTS	MDCGRP1 OPTS OPTS SBLF$

Limitations and restrictions

The following limitations and restrictions apply to MDC DSS/BLF Set Based:

- The lamp normally provides indication of the idle or busy state of a monitored set. Time delay results from the time window that occurs between the time a DN on the monitored set changes status and the actual time the lamp state is updated on the monitoring set. Also, time delay or loss of lamp states occur from system overload.
- A DSS DN on the monitored set is a member of the same customer group family and switch as the (PDN) of the business set monitoring it.
- A specific station is monitored simultaneously by a maximum of eight sets.
- The XPMs should be upgraded to XPM+ versions with additional memory and processor for SBLF assignment on ISDN Meridian Feature Transparency (MFT) terminals.
- ISDN functional sets (with National ISDN protocol) cannot be monitored.
- The monitoring or monitored set types are listed in the “Description" section of this document.
- Monitoring of a MADN SCA group without a primary member is not supported.
- The Power Features Application expects the BLF DN to be entered as 10 digits, regardless of the setting of the office parameter ACTIVE_DN_SYSTEM.
- The BLFDN is limited to 10 digits if office parameter ACTIVE_DN_SYSTEM is set to NORTH_AMERICAN or ENHANCED_NORTH_AMERICAN.

Interactions

The following paragraphs describe the interactions betweenMDC DSS/BLF Set Based and other functionalities.

MDC DSS/BLF Set Based (continued)

Automatic Call Back

A SBLF call is not recalled by the Automatic Call Back (ACB) feature.

Automatic Call Distribution

The Automatic Call Distribution (ACD) Incalls key or the group DNs are monitored by SBLF/DSS feature.

Call Forwarding

The SBLF monitors only the DNs of the monitored station even if call forward is active.

Call forwarding is transparent to the SBLF key. For example, if the SBLF key is used to place a call to a DSS DN with Call Forward Universal (CFU) active, the call completes to the forwarding DN.

The SBLF key is not used to program call forwarding. The pressing of the SBLF key is ignored when the monitoring set is programming call forward.

Call Park/Directed Call Park

For Directed Call Park (DCPK), an MBS end user can press the SBLF key to park a call against a DSS DN. The end user presses the DCPK, hears special dial tone, and presses the SBLF key.

The SBLF key is used for retrieving a parked call for Call Park (PRK) or DCPK by pressing the PRK or DCPK key, hearing special dial tone, and pressing the SBLF key.

Call Transfer/Three Way Call

An operator may use the SBLF feature key to establish a call transfer or 3WC instead of manually dialing the digits.

Call Waiting

The SBLF lamp remains on if any DN on the monitored station is busy, even if call waiting is active.

A SBLF call made to a station with the call waiting feature receives the same treatment as if the DN digits were dialed manually.

Display Feature

The number and or name of the monitored DSS DN displays on the monitoring set if the SBLF key is used to place the call and the display feature is assigned.

MDC DSS/BLF Set Based (continued)

Feature Groups

The SBLF feature is supported by feature groups. SBLF option is assigned to a feature group in order to allow assignment of SBLF keys on a set. The assignment of the SBLF key through SERVORD or Power Feature (PF) is denied for business sets belonging to a feature group without the SBLF option.

Group Intercom or Intercom

If Group Intercom (GIC) or Intercom (ICM) key on a business set is used to call or answer another member of the group, the SBLF lamp state does not indicate that the monitored set is busy.

If the monitored set is a 2500 set and originates or calls another member using the GIC or ICM feature, the SBLF lamp remains lit. The 2500 set must go offhook to originate or answer a call, therefore the SBLF lamp remains on.

Hunt Groups

MDC DSS/BLF Set Basedmonitors only the pilot members of Directory Number Hunt (DNH), Bridged Night Number (BNN), Preferential Hunt (PRH), Key Short Hunt (KSH) groups and supports Series Completion (SCMP). Normal hunting applies to calls after transfer of a call with the SBLF key.

Inspect feature

The MBS end user can verify the monitored DSS DN by pressing the INSPECT key (if assigned) and the specific SBLF key. The display includes the BLF feature name and the digits of the monitored DSS DN.

Last Number Redial

A SBLF call is not recalled by the Last Number Redial (LNR) feature.

Line maintenance

The SBLF lamp update recovers after line maintenance is performed on the SBLF monitored station.

Multiple Appearance Directory Number

Multiple Call Arrangement

MDC DSS/BLF Set Basedis unable to monitor a Multiple Call Arrangement (MCA) DN.

Single Call Arrangement Extension Bridging (SCA/EXB)

The SBLF lamp indicates the status of the set based individual member or the entire SCA/EXB group.

MDC DSS/BLF Set Based (continued)

Make Set Busy (MSB) or Do Not Disturb (DND)

If the MSB or DND feature is active on the monitored set, the SBLF lamp is on to indicate the monitored station is busy. A call to the DSS DN using the SBLF key receives busy tone when MSB or DND is active.

Message Waiting Query

MDC DSS/BLF Set Based allows the end user to depress the Message Waiting Query (MWQRY) and the SBLF key to query the message waiting status of a monitored DSS DN.

Out of service

The lamp is off and the DSS functionality is discontinued when the DSS DN is out of service. The DSS DN is removed through SERVORD.

Physical ringing

The SBLF lamp is on when any of the monitored DNs are receiving ringing due to termination or recall.

Power Feature

The SBLF option is added, modified, or deleted for PF when the end user selects the Busy Lamp Field (BLF) option. The choice of the set or DN variant of BLF appear in the prompts to the end user.

Ring Again

A treatment is given if the end user attempts to activate the Ring Again (RAG) feature on a busy SBLF call.

Station Controlled Conference

The SBLF key is used to establish or add a member to a conference call instead of manually dialing the DN digits.

Suspended/Plugged Up

If the DSS DN is suspended or plugged up, depressing the SBLF key to directly access the number results in the same treatment as if the digits were dialed manually.

Uniform Call Distribution

Set Based Busy Lamp Field/Direct Station Select allows for monitoring individual agent DNs only.

Activation/deactivation by the end user

MDC DSS/BLF Set Based is used for direct calling, 3WC, or transferring a call. In addition, the PF capability is used to manipulate (add, delete, or

change) the DN associated with the SBLF key. The following paragraphs describe the activation and deactivation procedure.

Direct calling by an MBS end user

At your telephone

1. The end user places a call to an idle monitored set by lifting the receiver, pressing a DN key, and the SBLF key for the specific station.

   Response:

   The monitored set rings. The call is completed for direct station select when the monitored set answers.

2. To deactivate the call, the monitoring station or the monitored station simply disconnect.

Transferring calls or setting up a 3WC

The procedure to transfer a call or establish a 3WC using the SBLF key is the same as dialing the monitored set manually. The end user presses the 3WC key with an active call on the set. A special dial tone is given. The end user presses the SBLF key and does one of the following:

- press the 3WC key and the RLS key to transfer a call
- wait for the monitored set to answer, consult privately with the called party, and press the 3WC key again to establish a three-way call
- alternate between the calling and the called party by alternately pressing the active DN key and the 3WC key

Power features

Power Features enable the end user to add an SBLF key to the set, remove an SBLF key from a set, or change the DN on an existing SBLF key. The following figures display examples of selecting, adding, deleting, and changing SBLF options on several MBSs with a display.

MDC DSS/BLF Set Based (continued)

Selecting SBLF options

POWER FEATURES *=NEXT 0=EXIT	End user presses the PF key on the set, enters a password, (if one is assigned), dials 287 for busy lamp field (bus), or presses * until the following prompt displays
BUSY LAMP FIELD *=NEXT 1=SELECT #=BACK	End user presses 1 to select busy lamp field options
Choose Variant 1= DN BASED 2= Set Based	End user presses 2 for SBLF

MDC DSS/BLF Set Based (continued)

Adding an SBLF key to an M5209 or M5312 set

```
BUSY LAMP FIELD OPTIONS
1=ADD 2=DEL/CHG 0=EXIT
```

End user presses 1 to select busy lamp field options.

```
CHOOSE BLANK KEY
0=EXIT
```

End user presses a feature key.

```
MUST CHOOSE BLANK KEY
0=EXIT
```

This message appears if an end user presses a non-blank feature key.

```
ENTER 7 DIGIT NUMBER
*=<-- HOLD=OK
```

After selecting a blank feature key, an end user enters a 7-digit DN.

```
2435826
*=<-- HOLD=OK
```

End user presses the HOLD key.

Note: The serving numbering plan area (SNPA) defaults to the set's SNPA.

```
KEY ADDED
CONTINUE? 1=YES 2=NO
```

Once the SBLF key is added, the end user is prompted to continue adding other keys, or can exit by pressing 2.

```
KEY NOT ADDED
CONTINUE? 1=YES 2=NO
```

Or if option SBLF was not successfully added to a feature key, this prompt displays and the end user can select 1 to repeat the procedure.

MDC DSS/BLF Set Based (continued)

Deleting an SBLF key from an M5209 or M5312 set

BUSY LAMP FIELD OPTIONS 1=ADD 2=DEL/CHG 0=EXIT	End user presses 2 to delete or change a SBLF DN.
2535826 *=NEXT #=BACK 7=MORE	The set displays the first SBLF DN and lights the corresponding keys. End user presses * to view following DN, or end user presses # to view previous DN. End user presses 7 when desired SBLF DN is displayed.
2535826 1=DELETE 2=CHANGE 7=MORE	End user presses 1 to delete the currently displayed SBLF feature key.
2535826 1=Delete 2=CHANGE 7=More	This prompt appears to make sure the end user wants to delete this key. The end user presses 1.
KEY DELETED CONTINUE? 1=YES 2=NO	Once the SBLF key is deleted, the end user is prompted to continue deleting other keys, or can exit by pressing 2.
KEY NOT DELETED CONTINUE? 1=YES 2=NO	If the SBLF key was not successfully deleted, this prompt displays and the end user can select 1 to repeat the procedure.

MDC DSS/BLF Set Based (continued)

Changing the DN of an SBLF key on an M5209 or M5312 set

`BUSY LAMP FIELD OPTIONS` `1=ADD 2=DEL/CHG 0=EXIT`	End user presses 2 to change or delete a SBLF key.
`-------` `1=DELETE 2=CHANGE 7=MORE`	End user presses 2 to change the DSS DN on a SBLF key.

Note: NEXT and BACK are not available because only one SBLF key is assigned to the set. This key has no DSS DN associated with it.

`ENTER 7 DIGIT NUMBER` `*=<-- HOLD=OK`	The display prompts the end user to enter a DN.
`243-` `*=<-- HOLD=OK`	End user begins entering a DSS DN and presses HOLD.
`INVALID NUMBER` `REENTER? 1=YES 2=NO`	Set Based Busy Lamp/ Direct Station Selection requires a 7-digit DN. End user presses 1 to rekey the entry.
`ENTER 7 DIGIT NUMBER` `*=<-- HOLD=OK`	The display prompts the end user to enter a DN.
`2431234` `*=<-- HOLD=OK`	End user enters a 7-digit DN and presses HOLD.
`KEY CHANGED` `CONTINUE? 1=YES 2=NO`	After the SBLF key is changed, the end user is prompted to continue changing other keys, or can exit by pressing 2.
`KEY NOT CHANGED` `CONTINUE? 1=YES 2=NO`	If option SBLF was not successfully changed, this prompt displays and the end user can select 1 to repeat the procedure.

The following figures shows how an end user changes the DSS DN on an SBLF key on an M5317T set.

MDC DSS/BLF Set Based (continued)

Changing the DN on an SBLF key on an M5317T set

```
POWER FEATURES
NEXT    EXIT
```

End user presses NEXT softkey until the following prompt displays.

```
BUSY LAMP FIELD
NEXT   SELECT   BACK   EXIT
```

End user presses SELECT softkey to choose option busy lamp field options.

```
Choose Variant
DN      Set
```

End user presses SET softkey for SBLF.

```
BUSY LAMP FIELD OPTIONS
NEXT  SELECT  BACK  EXIT
```

End user accidentally presses a DN key.

```
Use Phone     Continue
```

End user can opt to use the phone or continue with the PF session. End user presses CONTINUE softkey.

```
Busy Lamp Field Options
Add   Del/CHG EXIT
```

End user presses DEL/CHG to select delete/change menu.

MDC DSS/BLF Set Based (continued)

Changing the DN on a SBLF key on an M5317T set

```
6215002
Next  Back  Delete   Change    Exit
```

End user presses softkey CHANGE to change the DSS DN.

```
ENTER 7 DIGIT NUMBER
<--        OK
```

End user begins entering a DSS DN.

```
621
<--    OK
```

End user accidentally enters a 3-digit DN and presses OK softkey.

```
INVALID NUMBER REENTER?
YES    NO
```

The DSS DN requires a 7-digit number. End user presses YES softkey to rekey the entry.

```
621_
Back    OK
```

End user enters a valid 7-digit DN and presses OK softkey.

```
KEY CHANGED
CONTINUE?      YES    NO
```

End user presses NO softkey to exit the session.

Billing

MDC DSS/BLF Set Based does not affect billing.

Station Message Detail Recording

MDC DSS/BLF Set Based does not affect Station Message Detail Recording.

MDC DSS/BLF Set Based (continued)

Datafilling office parameters

MDC DSS/BLF Set Based does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement MDC DSS/BLF Set Based. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for MDC DSS/BLF Set Based

Table	Purpose of table
KSETLINE (Note)	Business Set and Data Unit Feature. This table contains the DN appearances for business sets and data units. One entry is required for each DN related key on a business set and data unit.
KSETFEAT (Note)	Business Set and Data Unit Keys. This table lists the line features that are assigned to the business sets and data units (DU) listed in table KSETLINE.
FTRGOPTS	Feature Group Options. This table assigns line options to all feature groups defined in an office.
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.	

Datafilling table FTRGOPTS

The following table shows the datafill specific to MDC DSS/BLF Set Based for table FTRGOPTS. Only those fields that apply directly to MDC DSS/BLF Set Based are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table FTRGOPTS (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
FTRGRP		1- to16-alphanumeric feature group name	Feature group name. This field specifies the name of the feature group associated with the option.
OPTION		OPTS	Option. Enter OPTS.
OPTVAR			Option variable area. This field consists of subfields OPTION and OPTLIST.

Datafilling table FTRGOPTS (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	OPTION	OPTS	Option. Enter OPTS.
	OPTLIST	SBLF	Option list. Enter options.

Datafill example for table FTRGOPTS

The following example shows sample datafill for table FTRGOPTS.

MAP display example for table FTRGOPTS

```
FTRGRP   OPTION   OPTION   OPTVAR
_____________________________________________________
MDCGRP1  OPTS     OPTS     SBLF
```

Translation verification tools

MDC DSS/BLF Set Based does not use translation verification tools.

SERVORD

The SBLF key feature is added through SERVORD using the NEW (establish service) and ADO (add option) commands. A tuple in table KSETFEAT is automatically updated when the SBLF option is assigned through SERVORD.

The SBLF feature is removed from a set with the OUT or Delete Option (DEO) command.

The SBLF feature is assigned to business sets with the line class code of M5009, M5209, M5112, M5212, M5312, and the ISDN sets M5209T, and M5317T.

SERVORD limitations and restrictions

The following SERVORD limitations and restrictions apply to MDC DSS/BLF Set Based:

- Replacing the LEN of the monitored set with a vacant LEN using the SERVORD command Change Line Equipment Number (CLN) or replacing the DSS DN with a vacant DN prevents the SBLF feature from monitoring any DNs on the set.
- Exchanging the LEN or DSS DN with another existing LEN or DN prevents the SBLF feature from monitoring any DNs on the set.

MDC DSS/BLF Set Based (continued)

- Adding a DSS DN to a Multiple Appearance Directory Number (MADN) type Single Call Arrangement/Extension Bridging (SCA/EXB) group of a different DN prevents the SBLF feature from monitoring any DNs on the set.
- Assigning a different number to a previous member of a MADN SCA/EXB group specified as a DSS DN is unable to be monitored by the SBLF feature.

SERVORD prompts

The following table shows the SERVORD prompts used to add MDC DSS/BLF Set Based to a line.

SERVORD prompts for MDC DSS/BLF Set Based

Prompt	Valid input	Explanation
OPTION	SBLF	Assigns SBLF to the line.
SBLFDN	mmmnnnnnnn or N	The SBLFDN is a 10-digit number. The mmm is any number from 0 to 9 to represent the serving area code (SNPA) of the DSS DN. The nnnnnnn is any number from 0 to 9 to represent the 7-digit DSS DN. “N" represents nil and only appears in table KSETFEAT if the DSS DN is removed through SERVORD. A valid DN must be entered when the SBLF assignment is made. If office parameter ACTIVE_DN_SYSTEM is set to NORTH_AMERICAN or ENHANCED_NORTH_AMERICAN, the BLFDN is limited to 10 digits.
	from 1 to 15 digits	If the office parameter ACTIVE_DN_SYSTEM is set to UNIVERSAL, the DN can be a maximum of 15 digits.

SERVORD example for adding MDC DSS/BLF Set Based

The following SERVORD example shows how MDC DSS/BLF Set Based is added to a line using the SERVORD ADO command.

MDC DSS/BLF Set Based (continued)

SERVORD example for MDC DSS/BLF Set Based in prompt mode

```
>SERVORD
SO:
> ADO
SONUMBER: NOW 94
>
DN_OR_LEN:
> 2  0 0 5
OPTKEY:
> 7
OPTION:
> SBLF
SBLFDN:
9195555002
OPTKEY:
> $
COMMAND AS ENTERED
ADO NOW 94 7 3 PM HOST 02 0 00 05 (7 SBLF 9195555002)$
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
```

SERVORD example for MDC DSS/BLF Set Based in no-prompt mode

```
> ADO $ 2  0 0 5 (7 SBLF 9195555002) $
```

The following SERVORD example show how MDC DSS/BLF Set Based is added in the no-prompt mode to several keys of a business set with the primary directory number of 6212004. The SBLF feature is added to key 2 with SBLFDN of 6136215887, which is a DN of a business set, and to key 3 with SBLFDN 6136215000, which is the DN of a 500/2500 set. This example also includes the error message displayed.

SERVORD example for MDC DSS/BLF Set Based in no-prompt mode adding assignment to two keys

```
> ADO $  6212004   2  SBLF  6136215887  3  SBLF
6136215000  $  y y

 COMMAND AS ENTERED
 ADO NOW 94 8 10 AM 6212004 ( 2 SBLF 6136215887 ) ( 3
 SBLF 6136215000 ) $
 Since only 1 DN exists on a non keyset, SBLF will be
 replaced by BLF
```

MDC DSS/BLF Set Based (continued)

The following query line equipment number (QLEN) examples illustrate the characteristics of the DNs used in the previous SERVORD example.

QLEN for DN 6215887

```
QLEN HOST 02 0 10 16
LEN:  HOST 02 0 10 16
TYPE: SINGLE PARTY LINE
SNPA: 613
DIRECTORY NUMBER: 6215887
LINE CLASS CODE: M5209
CUSTGRP: IBNTST  SUBGRP: 0 NCOS: 0 RING: Y
ADDONS: NONE  EXTENSION: N
CARDCODE:  6X21AC  GND: N  PADGRP: SPPHN BNV: NL MNQ: Y
PM NODE NUMBER :  44
PM TERMINAL NUMBER: 337
OPTIONS:
NAME PUBLIC LEE TREVINO

 KEY    DN

  1     DN          6215887
  2     DN          6215883
  3     DN          6215884
  4     DN          6215885
```

QLEN for DN 6215000

```
QLEN HOST 00 1 09 21
LEN:  HOST 00 1 09 21
TYPE: SINGLE PARTY LINE
SNPA: 613
DIRECTORY NUMBER: 6215000
LINE CLASS CODE: IBN
CUSTGRP: IBNTST  SUBGRP: 0 NCOS: 0
SIGNALLING TYPE: DIGITONE
CARDCODE:  6X19AC  GND: N  PADGRP: STDLN BNV: NL MNQ: N
PM NODE NUMBER :  41
PM TERMINAL NUMBER: 310
OPTIONS:
DGT NAME PUBLIC SAM SNEAD
```

The following is a QLEN example for DN 6212004 which shows the display prior to the addition of the SBLF feature.

MDC DSS/BLF Set Based (continued)

QLEN for DN 6212004 prior to SERVORD adding SBLF to two keys

```
QLEN HOST 00 0 19 16
LEN:  HOST 00 0 19 16
TYPE: SINGLE PARTY LINE
SNPA: 613
DIRECTORY NUMBER: 6212004
LINE CLASS CODE: M5209
CUSTGRP: IBNTST  SUBGRP: 0 NCOS: 0 RING: Y
ADDONS: NONE  EXTENSION: N
CARDCODE:  6X21AC  GND: N  PADGRP: SPPHN BNV: NL MNQ: Y
PM NODE NUMBER :  40
PM TERMINAL NUMBER: 625
OPTIONS:
RAG 3WC CNF C06 CFU N I $

 KEY    DN

 1      DN          6212004

 KEY    FEATURE
  4     3WC
  5     CNF C06
  6     RAG
  7     CFU N
  8
  9
```

The QLEN for 6212004 after the SBLF feature is added through SERVORD shows that the feature automatically changed to BLF on key 3 because the monitored set is a single line set.

MDC DSS/BLF Set Based (end)

QLEN for DN 6212004 after SBLF added to two keys

```
QLEN HOST 00 0 19 16
LEN:  HOST 00 0 19 16
TYPE: SINGLE PARTY LINE
SNPA: 613
DIRECTORY NUMBER: 6212004
LINE CLASS CODE: M5209
CUSTGRP: IBNTST  SUBGRP: 0 NCOS: 0 RING: Y
ADDONS: NONE  EXTENSION: N
CARDCODE:  6X21AC  GND: N  PADGRP: SPPHN BNV: NL MNQ: Y
PM NODE NUMBER :  40
PM TERMINAL NUMBER: 625
OPTIONS:
RAG 3WC CNF C06 CFU N I $

 KEY    DN

 1      DN          6212004

 KEY    FEATURE
  2     SBLF 6136215887
  3     BLF 6136215000
  4     3WC
  5     CNF C06
  6     RAG
  7     CFU N
  8
  9
```

MDC Single Line Queue

Operating codes

Functional group ordering code: MDC00015

Functionality ordering code: not applicable

Release applicability

DMS100C03 and up

Prerequisites

MDC Single Line Queue has no prerequisites.

Description

The Single Line Queueing (SLQ) feature provides end users of the Meridian business set (MBS) with the ability to queue calls against a single directory number (DN). By allowing a single line queue, the MBS application ensures a higher rate of call completion at a reasonable cost to the end user.

Note: This feature is North America only.

Operation

When the SLQ feature is activated on an MBS set, calls coming into a busy MBS set are queued until the queue threshold is reached. Once calls are placed into the queue and the delay threshold is exceeded, a recorded announcement advises the caller of the delay. The SLQ feature handles calls on a “first in first out" (FIFO) queueing algorithm.

The queue size is datafilled through the Service Order System (SERVORD). There are two queues defined; a Primary queue for all incoming calls if the SLQ DN is busy, and a Recall queue in which recalled calls are returned when the feature recall timer expires. The Primary queue handles all incoming calls until the queue threshold is reached. If the queue threshold is met, incoming calls are routed according to the overflow route or DN datafilled.

If the SLQ agent is busy and the Primary queue has reached its limit, the caller is routed to an overflow route or DN if a valid route or DN has been datafilled. The overflow route or DN redirects the caller to another agent or to a treatment. If the overflow route is not datafilled or if the overflow route is busy, the caller hears a Busy Treatment (T-60) when the call queue threshold has been reached.

The Recall queue handles all calls that have been transferred, parked, or camped onto another caller. These calls have a time-out value to determine

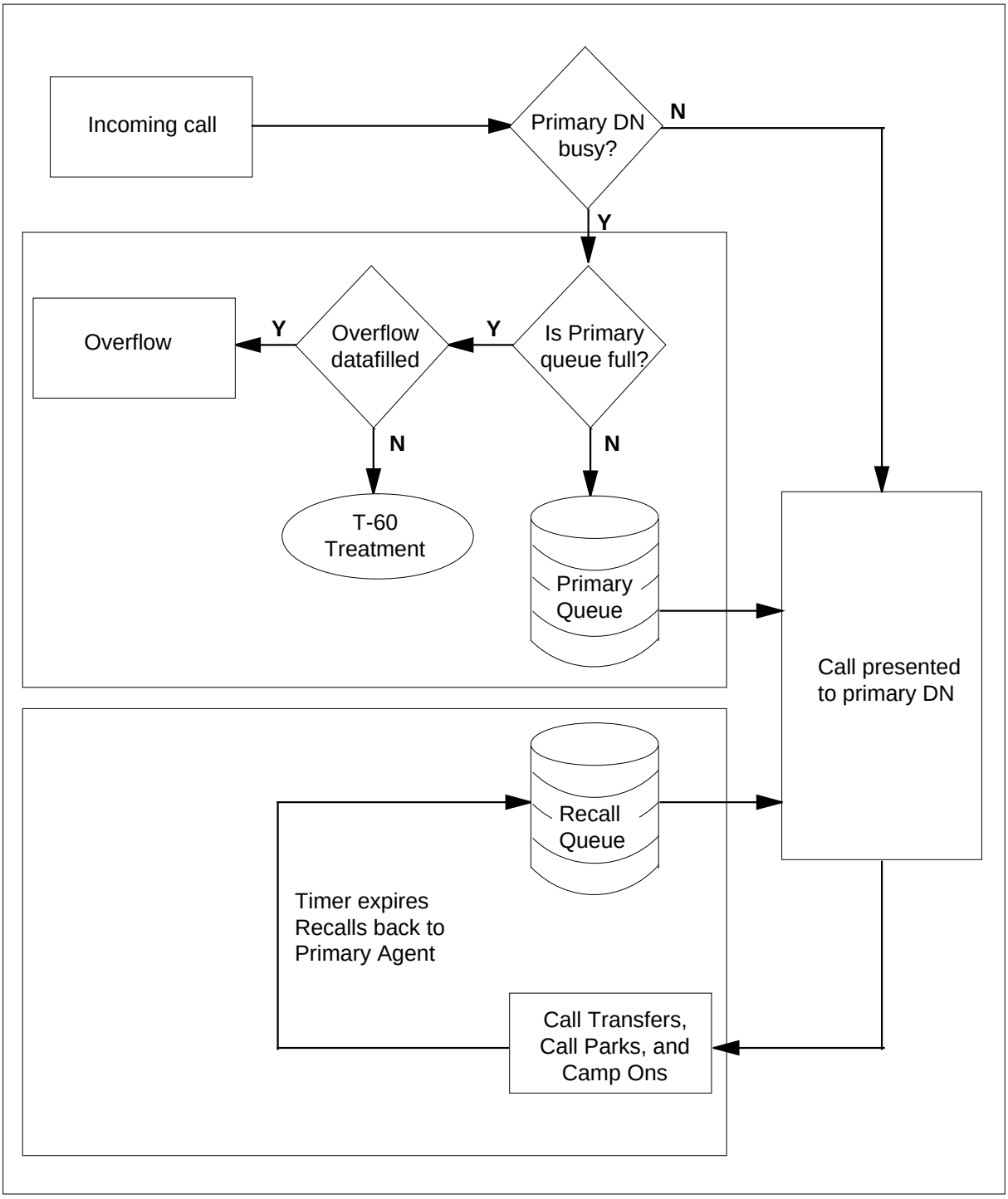
MDC Single Line Queue (continued)

when the call should be returned to the Primary queue. The recalled parties have priority over all callers in the Primary queue.

The following figure shows the diagram of a call flow.

MDC Single Line Queue (continued)

Diagram of call flow



MDC Single Line Queue (continued)

Call billing

Station Message Detail Recording (SMDR) records are generated for both answered and unanswered calls to an SLQ agent. Option SLQ has a parameter for delayed billing (DBG), which specifies when the billing of SLQ calls should start. If the option is set to N (No), billing starts when the call enters the queue. If the option is set to Y (Yes), billing starts when the call is answered by the SLQ agent.

System restarts

The SLQ feature recovers from all system restarts (SWACT). SLQ agents are logged out after a recovery from a cold or reload restart. Calls which are in the queue are considered transient and are dropped.

Translations table flow

The MDC Single Line Queue does not affect translations table flow.

Limitations and restrictions

The following limitations and restrictions apply to MDC Single Line Queue:

- Call Forward Universal (CFU) and Call Forward Intragroup (CFI) take precedence over SLQ. Calls coming into a set with SLQ and CFU or CFI active are forwarded to the DN that is datafilled for CFU or CFI.
- Make Set Busy (MSB) and Do Not Disturb (DND) force all incoming calls to be queued if the queue threshold has not been met.
- Call Forwarding, Busy (CFB) is disabled while SLQ is active.
- SLQ DNs cannot form part of a hunt group. However, an SLQ DN can be used as the Line Overflow Directory Number (LOD), to which calls are routed if an idle line in the hunt group cannot be found.
- SLQ cannot be assigned to an MBS set that is part of a Multiple Appearance Directory Number (MADN).
- SLQ cannot be assigned to an MBS set that has option Key Short Hunt assigned.
- SLQ cannot be assigned to an MBS set that is part of an Automatic Call Distribution group.
- SLQ cannot be assigned to an MBS set that is part of a Uniform Distribution Group.
- SLQ cannot be assigned to a DN with Call Waiting.

- SLQ is not compatible with Personal Call Screening.
- When the peripheral that supports the SLQ agent is cold swacted, all the callers in the queue will dequeue and will get sent to treatment, yet will leave the SLQ agent logged in.

Interactions

The following paragraphs describe the interactions between MDC Single Line Queue and other functionalities.

Call Park

An MBS set with SLQ is able to park a call against its DN. Calls parked for an SLQ DN are recalled to the Recall queue, where they are presented before any new incoming calls out of the Primary queue.

Call Transfer

An MBS set with SLQ is able to transfer calls per normal call transfer functionalities. Calls transferred and recalled from an SLQ DN return to the Recall queue, where they are presented before any new incoming calls out of the Primary queue.

Camp-On

An MBS set with SLQ is able to camp calls onto another DN using normal Camp-On (MBSCAMP) functionalities. Camp-on recalls from an SLQ DN are returned to the Recall queue, where they are presented before any new incoming calls out of the Primary queue.

Attendant consoles

SLQ is compatible with Attendant Consoles. The attendant can originate and extend calls to an SLQ agent, but cannot use the CONF feature to extend and cannot extend another attendant console.

Activation/deactivation by the end user

Once SLQ is activated by the end user, calls coming into a busy MBS set are queued until the queue threshold is reached. An associated SLQ key lamp on the MBS set illuminates solidly to show that the feature is active.

MDC Single Line Queue (continued)

Activation/deactivation of MDC Single Line Queue by the end user

At your telephone

1 Press the dedicated SLQ key on the MBS set.

Response:

The associated SLQ key lamp on the MBS set illuminates solidly to show the feature is active. Calls coming into a busy MBS set are queued until the queue threshold is reached.

2 To deactivate SLQ, press the SLQ key on the MBS set.

Response:

The associated SLQ key lamp on the MBS set will turn off and the feature is deactivated. Any calls actively queued will be answered as calls are released. When SLQ has been deactivated with calls in queue, route all subsequent calls to overflow route until all queued calls have been processed.

Billing

MDC Single Line Queue does not affect billing.

Station Message Detail Recording

MDC Single Line Queue does not affect Station Message Detail Recording.

Datafilling office parameters

MDC Single Line Queue does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement MDC Single Line Queue. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for MDC Single Line Queue (Sheet 1 of 2)

Table	Purpose of table
KSETLINE (Note)	Business Set and Data-Unit Line Assignment Table. This table contains the directory number appearances for business sets and data units. One entry is required for each directory number-related key on a business set and data unit.
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) listed in table KSETLINE, and also the Meridian digital telephone sets and DUs listed in table IVDINV.
Note: These tables are datafilled through SERVORD; therefore, no datafill procedure or example is provided. Refer to “SERVORD" for an example of using SERVORD to datafill this table.	

MDC Single Line Queue (continued)

Datafill tables required for MDC Single Line Queue (Sheet 2 of 2)

Table	Purpose of table
AUDIO	Audio Interlude Table. This table defines the audio interlude broadcasts that are provided for features pertaining to the Integrated Business Network (IBN).
LCCOPT	Line Class Code Compatible Options Table. This table is a read-only table that is referenced to ensure the compatibility between line class codes and options, and to ensure that incompatible options are not added to the same line.
OPTOPT	Incompatible Options Table. This table is a read-only table that lists for each line option the other line options that are not compatible.
SLQGRP (Note)	Single Line Queuing Group Table. This table is a read-only table that lists all of the SLQ groups and their individual parameters.
Note: These tables are datafilled through SERVORD; therefore, no datafill procedure or example is provided. Refer to “SERVORD" for an example of using SERVORD to datafill this table.	

Datafilling table AUDIO

The following table shows the datafill specific to MDC Single Line Queue for table AUDIO. Only those fields that apply directly to MDC Single Line Queue are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table AUDIO (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
AUDIOKEY		see subfields	Audio key. This field consists of subfields GROUP and FTRINDEX.
	GROUP	AUDIO1 to AUDIO512	Group. This field specifies the audio group name. Enter the audio group name required.

MDC Single Line Queue (continued)

Datafilling table AUDIO (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	FTRINDEX	ACDQ, ACHOLD, ATTQ, CAMPON, CHD, CPARK, CWD, CWO, KSMOH, MBSCAMP, MPHQ, PHOLD, SLQQ, or UCDQ.	Feature Index. This field specifies the features that require a broadcast. Enter up to six features. Valid features are: ACDQ, ACHOLD, ATTQ, CAMPON, CHD, CPARK, CWD, CWO, KSMOH, MBSCAMP, MPHQ, PHOLD, SLQQ, or UCDQ.
ROUTES		see subfield	Route. This field consists of subfield CHOICE.
	CHOICE	ANN, MUSIC, SILENCE, RINGING, or REPEAT	Audio choice. This subfield specifies the audio choice the caller hears. Valid options are: ANN, MUSIC, SILENCE, RINGING, or REPEAT.

Datafill example for table AUDIO

The following example shows sample datafill for table AUDIO.

MAP display example for table AUDIO

```
AUDIOKEY
                                                        ROUTES
_____________________________________________________________________
AUDIO1    SLQQ
                                                  (SILENCE  0)$
```

Datafilling table LCCOPT

The following table shows the datafill specific to MDC Single Line Queue for table LCCOPT. Only those fields that apply directly to MDC Single Line

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

Datafilling table LCCOPT

Field	Subfield or refinement	Entry	Explanation and action
LCC		alphanumeric	Line class code. This field specifies the name of the line class code. There is only one line class code per record.
COMPAT		alphanumeric	Compatible line option. This field specifies all options that are compatible with the line class code specified in the LCC field.

Datafill example for table LCCOPT

The following example shows sample datafill for table LCCOPT.

MAP display example for table LCCOPT

```
LCC                 COMPAT
_____________________________________________________________
PSET                 (SLQ)
```

Datafilling table OPTOPT

The following table shows the datafill specific to MDC Single Line Queue for table OPTOPT. Only those fields that apply directly to MDC Single Line Queue are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table OPTOPT

Field	Subfield or refinement	Entry	Explanation and action
OPTION		alphanumeric	Line option. This field specifies the name of the line option. There is only one line option for each record.
INCOMPAT		alphanumeric	Incompatible options. This field specifies all line options that are incompatible with the line option specified in the key field.

Datafill example for table OPTOPT

The following example shows sample datafill for table OPTOPT.

MDC Single Line Queue (continued)

MAP display example for table OPTOPT

```
OPTION                                          INCOMPAT
_____________________________________________________________
SLQ        (AAK) (ACD) (ACRJ) (AEMK) (AUL) (BC) (BNN)
           (CAG) (CALLOG) (CLSUP) (CNAB) (CNDB) (DCND)
           (DLH) (DMCT) (DNH) (ECM) (EHLD) (KSH) (MDN)
           (MLAMP) (MLH) (MPH) (MREL) (PREMTBL) (PRH)
           (RCHD) (RMB) (SCMP) (SDN) (SHU) (SLVP) (TBO) $
```

Translation verification tools

MDC Single Line Queue does not use translation verification tools.

SERVORD

The Service Order System (SERVORD) adds option SLQ using the NEW (establish service) or ADO (add option) commands. When option SLQ is added to a blank key on the Electronic Business Set (EBS), a prompt appears for the SLQ DN key. The SLQ DN key specified can be any DN key on the EBS. Option SLQ is added to the specified blank key and lets the agent log in with a single key hit.

Option SLQ can be deleted from the associated EBS by deleting the option from the key to which it was added. Option SLQ cannot be deleted from a line if the feature is active.

Option SLQ can be modified by using the CHF (change) command. The changes take effect immediately if the agent is not logged in. If the agent is logged when the changes are made, the new parameters take effect once the agent logs out and in again. The SLQ DN key number can be changed only by removing and re-adding option SLQ.

SERVORD limitations and restrictions

Option SLQ is not compatible with options AAK, ACD, ACRJ, AEMK, AUL, BC, BNN, CAG, CALLOG, CLSUP, CNAB, CNDB, DCND, DLH, DMCT, DNH, ECM, EHLD, KSH, MDN, MLAMP, MLH, MPH, MREL, PREMTBL, PRH, RCHD, RMB, SCMP, SDN, SHU, SLVP, and TBO.

MDC Single Line Queue (continued)

SERVORD prompts

The following table shows the SERVORD prompts used to add MDC Single Line Queue to an associated DN.

SERVORD prompts for MDC Single Line Queue

Prompt	Valid input	Explanation
DN_OR_ LEN	DN or LEN number	Specifies the directory number or line equipment number to which the SLQ option is assigned.
OPTKEY	0 to 9	Specifies the key to which the SLQ option is assigned.
OPTION	SLQ	Specifies the option to be assigned to a DN or LEN.
DELAYED _BILLING	Y or N	Specifies whether billing is started while the call is in the queue.
MAX_ CALLQ_ SIZE	0 to 15	Specifies the SLQ call queue size.
SLQ-AUDIO	Y or N	Specifies whether the caller listens to a delay announcement or music while the call is in the queue. If Y is chosen, subfields RANTH and AUDIOGRP appear.
RANTH	0 or 6 to 60	Specifies the length of time, in seconds, before the caller hears the delay announcement or music.
AUDIO-GRP	AUDIO1 to AUDIO512	Specifies the announcement from table AUDIO.
OVTYPE	N, R, D	Specifies the SLQ overflow type, whether to an overflow route, DN, or none. If R is entered to choose an overflow route, subfield TABID appears. If D is entered to choose an overflow DN, subfield OVDN appears.
TABID	IBNRTE, OFRT, or DN	Specifies the overflow route from table IBNRTE, table OFRT, or to a Directory Number.
OVDN	numeric (1 to 11 digits)	Specifies the number to which calls are routed.
SLQDN_ KEY	numeric	Specifies the key to which the SLQ feature is to be assigned.

MDC Single Line Queue (end)

SERVORD example for adding MDC Single Line Queue

The following SERVORD example shows how MDC Single Line Queue is added to a directory number using the ADO command.

SERVORD example for MDC Single Line Queue in prompt mode

```
>ADO
SONUMBER: NOW 93 7 15 5PM
>
DN_OR_LEN:
>6215886
OPTKEY:
> 5
OPTION:
> SLQ
DELAYED_BILLING:
> Y
MAX_CALLQ_SIZE:
> 5
SLQAUDIO:
>Y
RANTH:
> 8
AUDIOGRP:
> AUDIO1
OVTYPE:
>R
TABID:
> IBNRTE 1
SLQDN_KEY:
>1
OPTKEY:
>$
```

SERVORD example for MDC Single Line Queue in no-prompt mode

```
> ADO $ 6215886 (5 SLQ Y 5 Y 8 AUDIO1 R IBNRTE 1 1 )$
```

Note: Tables KSETFEAT and KSETLINE are automatically datafilled when the SLQ feature is assigned using SERVORD.

6 Datafilling MDC Tailored NARS

The following chapter describes the MDC Tailored NARS, MDC00016, functionality.

Network Access Registers (NARS)

Ordering codes

Functional group ordering code: MDC00016

Functionality ordering code: not applicable

Release applicability

BCS36 and up

Prerequisites

To operate, Network Access Registers (NARS) has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001

Description

Network Access Registers (NARS) provides a means of throttling calls into and from a Meridian Digital Centrex (MDC) customer group.

> ***Note:*** In this feature description, the term throttling means to regulate a call's ability to terminate.

Network Access Registers (NARS) is valid for MDC, Integrated Services Digital Network (ISDN), and Subscriber Services lines.

Operation

Previous to Network Access Registers (NARS), virtual facility groups (VFG) were used for throttling incoming and outgoing calls in an MDC group. However, the use of VFGs for call throttling requires retranslation, which increases DMS switch processing time for each call. Network Access Registers (NARS) eliminates the need for retranslation, which, in turn, increases processing time.

Current implementation

Network Access Registers (NARS) is accessible at the customer group level. A customer group can be assigned default incoming and outgoing NARS groups with option NARS. Each NARS group has a datafillable size that indicates the number of simultaneous calls allowed. When a throttleable call is made, the NARS group's size is checked. If the maximum number of simultaneous calls for this NARS has been reached, the call is not allowed to continue.

Network Access Registers (NARS) (continued)

Network Access Registers (NARS) allows incoming and outgoing NARS groups to be assigned to network class of service (NCOS) groups, which throttle calls at the NCOS level. If an end user has option NARS assigned to his or her NCOS group, the NCOS's NARS group is used to throttle the calls.

Calls can be throttled on an entire customer or NCOS group basis, as well as on a select call type basis.

Network Access Registers (NARS) also allows NARS groups to be assigned to translation selectors in which throttling is based on call type instead of NCOS or customer group. When an end user makes a call using a translation selector with option NARS, the call is throttled using the translation NARS group.

Network Access Registers (NARS) also provides throttling at the routing level. A means to throttle calls that can be routed to an alternate route is provided. For example, a call can be routed to a busy trunk group. The call is then routed to an alternate route, making the call able to be throttled. The call can be throttled using the alternate route's NARS group.

Calls able to be throttled

The path a call takes through translations determines whether the call can be throttled. Both incoming and outgoing calls can be throttled.

Outgoing throttled calls

Calls from a customer group assigned the following NET selector network types in tables IBNXLA (IBN Translation) and XLANAME (Translation Name) can be outgoing throttled calls:

- DOD (direct outward dialing)
- OWT (OUTWATS)
- ESN (electronic switching network)
- PVT (private)
- GEN (general)
- MBG (multiswitch business group)
- LOC (location code for MBG access)

Network Access Registers (NARS) (continued)

In addition, calls from a customer group assigned the following ROUTE selector types in tables IBNXLA and XLANAME can be outgoing throttled calls:

- L (location)
- S (common language location identifier)
- T (table)

Incoming throttled calls

Only direct inward dial (DID) calls can be incoming throttled calls to a customer group. If the call is terminating on a line, trunk, or attendant console (AC), the call is throttled using the entry in subfield NARIN in table CUSTENG (Customer Group Engineering) or table NCOS (Network Class of Service).

The following list includes calls terminating on an MDC line, MDC trunk, MDC AC, or MDC throttleable feature that can be incoming throttled DID calls:

- plain old telephone service (POTS) line
- POTS trunk
- MDC line or MDC trunk using DOD translations

A call with an originating MDC trunk or line that uses DOD translations to reach a terminating MDC trunk or line is considered both DOD and DID. It does not matter if the MDC originator and terminator are in the same customer group or if they are on or in the same line. The incoming call to the MDC terminator is considered an incoming throttled call and is throttled if the originator uses DOD translations.

The following list includes situations in which calls can be classified as both DOD and DID calls for terminating on an MDC agent:

- originator uses the NET DOD translations path
- originator uses the NET MBG translations path
- originator uses the NET LOC translations path
- originator uses the NET GEN LATTR translations path without options ESN, PVN, OW, or EWAUTH
- originator uses the ROUTE L translations path

Network Access Registers (NARS) (continued)

NARS feature assignment

Network Access Registers (NARS) is assigned to a customer group in table CUSTENG. Option NARS can then be refined at the NCOS, translation, routing, and feature levels.

Each NARS group is defined in table NARDATA (Network Access Registers Data) and can contain up to 2047 members.

An overflow route to another NARS or to a customer-defined treatment can be assigned to the NARS group. The MDC customer-defined treatment is only used if the call is an outgoing call from the MDC customer group. The overflow NARS is used for both incoming calls to the customer group and outgoing calls from the customer group.

The NARS is checked for availability. If there is an idle NARS member, the call continues. If there are no idle NARS members, the overflow route is checked. If the overflow route indicates a NARS name, it is checked for access availability. The call is prevented from continuing and is routed to a treatment if the overflow route indicates a customer-defined treatment. The customer-defined treatment is used for outgoing calls from the customer group. If the call is incoming to the customer group, the call is routed to reorder (RODR) treatment.

When a NARS is specified as an overflow route, a maximum of five consecutive attempts are allowed for access availability. If the maximum limit has been reached, the call is routed to an office-wide treatment. Outgoing calls receive customer group resource overflow (CGRO) treatment, and incoming calls receive RODR treatment.

Customer group NARS

Customer group default NARS names for incoming and outgoing calls are assigned in table CUSTENG. Field NARACT turns throttling on and off for the entire customer group. Refer to “Datafill procedure for table CUSTENG" in this feature description for details on assigning NARS to customer groups.

NCOS NARS

After NARS has been assigned in table CUSTENG, the option can be assigned in table NCOS. If a line's NCOS and customer groups both have option NARS, option NARS in table NCOS has precedence over option NARS in table CUSTENG.

The NCOS default NARS names are assigned to both incoming and outgoing calls in subfields NARIN and NAROUT. Entering NILNARS in either subfield substitutes the NARS defined in subfields NARIN and NAROUT of

Network Access Registers (NARS) (continued)

table CUSTENG for throttling. Refer to “Datafill procedure for table NCOS" in this feature description for details on assigning NARS to NCOS groups.

NARS access for outgoing calls

Throttling of outgoing calls is triggered by call translations and routing. The NARS used to throttle outgoing calls can be defined in tables CUSTENG, NCOS, IBNXLA, XLANAME, or one of the four MDC routing tables: IBNRTE (IBN Route), IBNRT2, IBNRT3, or IBNRT4.

Translations controlled throttling of outgoing calls

Outgoing calls from a customer group can be throttled. Translations paths determine whether a call needs to access a NAR. Use of selectors NET and ROUTE in tables XLANAME and IBNXLA identify the call as a throttleable call. Refer to “Datafill procedure for table XLANAME" and “Datafill procedure for table IBNXLA" in this feature description for details.

Translations NARS assignment

Network Access Registers (NARS) creates option NARS, which can be assigned to a translation path in tables IBNXLA and XLANAME. Route selectors NET and ROUTE can contain option NARS.

Assignment of option NARS to a tuple in one of the translations tables does not guarantee that the call can be throttled. The following circumstances must occur to guarantee call throttling when a call encounters a translations path assigned option NARS.

- The originating agent's customer group in table CUSTENG must have option NARS assigned, and field NARACT must be set to Y.
- If the originating agent's NCOS group in table NCOS has option NARS, field NARACT must be set to Y.
- Subfield NAROUT in table NCOS or in table CUSTENG must have a valid NARS name.

Translations NARS name

The outgoing translations NARS name must be a valid NARS name from table NARDATA, or it can be set to NILNAR. If the NARS name is set to NILNAR, the originator's NCOS NAROUT from table NCOS is used. If option NARS is not assigned or if subfield NAROUT is set to NILNARS in table NCOS, then the NAROUT defined in table CUSTENG is used for throttling.

MDC route-controlled throttling of outgoing calls

The MDC routing tables (IBNRTE, IBNRT2, IBNRT3, and IBNRT4) can be used to specify an outgoing NARS name for throttling using a conditional route selector (CND) and a negative conditional selector (NOT). Conditional

selector NARS has been added to the routing tables. An outgoing routing NARS name is identified by conditional selector NARS. If the outgoing routing NARS name is set to NILNAR, the originator's NCOS NAROUT is used for NCOS-based NARS, and the originator's customer group NAROUT from table CUSTENG is used for customer group NARS.

A call can be throttled based on selectors CND and NOT in the MDC routing tables. The call could also be throttled while proceeding through the elements in the route list.

NOT NARS route selector

If a NARS member is available, the next route element is used. The NARS member is attached to the call for the call duration, even if the next route element is unavailable. Therefore, all subsequent route elements should require this NARS member. If the NARS member is not available, the system uses the conditional route defined by the NOT NARS route selector. The conditional route could skip any number of route elements, select another route element in the same table, or skip to another routing table. (In the last case, operational measurement [OM] group NARUSAGE [Network Access Register Usage] is pegged. Refer to “Operational measurements" in this feature description for details.)

CND NARS route selector

If a NARS member is available, the system uses the conditional route defined by the CND NARS route selector. The NARS member is attached to the call for the call duration, even if the next conditional route element is unavailable. Therefore, all subsequent route elements starting with the conditional route should require this NARS member. If the NARS member is not available, the system uses the next route element. The conditional route could skip any number of route list elements, select another route element in the table, or skip to another routing table. (In the last case, OM group NARUSAGE [Network Access Register Usage] is pegged. Refer to “Operational measurements" in this feature description for details.)

Any call type using selector CND NARS or NOT NARS can be throttled.

Assignment of selector CND NARS or NOT NARS to a tuple in one of the MDC routing tables does not guarantee that the call can be throttled. The

Network Access Registers (NARS) (continued)

following circumstances must occur to guarantee call throttling when a call encounters selector CND NARS or NOT NARS.

- The originating agent's customer group in table CUSTENG must have option NARS assigned, and field NARACT must be set to Y.
- If the originating agent's NCOS group in table NCOS has option NARS, field NARACT must be set to Y.
- The translation selector NARS name field, NCOS NAROUT, or subfield NAROUT in table CUSTENG must have a valid NARS name.

A call could be required to use a customer group, NCOS, or translations NAR, and be required to gain access to another routing NARS at the routing phase. In this case, one call is required to gain access to two or more outgoing NARS.

NARS access for incoming calls

Calls incoming to the customer group could require throttling. Throttleable incoming calls can terminate on MDC lines and trunks, MDC ACs, and several MDC features.

Calls terminating on MDC lines

If a throttleable call terminates on an MDC line, the NARS defined in subfield NARIN is used for access. The MDC line can be on a 500/2500 set, a Meridian business set (MBS), or a non-data line console. The calls are throttled if the lines' customer group has Network Access Registers (NARS) activated.

Calls terminating on MDC trunks

When a throttleable call terminates on an MDC trunk, the value in subfield NARIN of the outgoing MDC trunk's customer group is used. Because outgoing MDC trunks do not belong to NCOS groups, NCOS-based NARS calls do not apply.

Calls terminating on MDC features and ACs

The MDC features which throttleable incoming calls can terminate onto include the following:

- Preset Conference
- Meet-Me Conference
- Uniform Call Distribution
- Automatic Call Distribution
- Direct Inward System Access

Network Access Registers (NARS) (continued)

Option NARS is added to to the following tables:

- PRECONF
- MMCONF
- UCDGRP
- ACDGRP
- DNROUTE (for Direct Inward System Access [DISA])

An incoming feature NARS name is identified by option NARS. When a throttleable call terminates on an MDC feature with option NARS, the NARS name defined by the feature is used for throttling. The NARS defined in subfield NARIN in table CUSTENG throttles DID calls if option NARS is not found in one of the listed tables.

Calls to the AC always use the NARS defined in subfield NARIN of table CUSTENG.

Calls made to an AC using a preset conference number can only be released or extended by the AC. If no NARS members are available and the overflow treatment is sent to an AC, the AC must release or extend the call before it can continue with the next call. When multiple calls overflow to the AC, each call to the AC operates in the same manner.

The incoming NARS name can be a valid NARS name, or NILNARS can be entered. If NILNARS is set for the NARS name, the entry in subfield NARIN in table CUSTENG is used. Because MDC features do not belong to NCOS groups, NCOS-based NARS calls do not apply.

The following circumstances must occur to guarantee call throttling when a call terminates on a throttleable feature or an AC.

- The terminating agent's customer group in table CUSTENG must have option NARS assigned, and field NARACT must be set to Y.
- The feature's NARS name, or subfield NARIN in table CUSTENG, must have a valid NARS name.

Network Access Registers (NARS) (continued)

Translations table flow

The Network Access Registers (NARS) translations tables are described in the following list:

- Table IBNTREAT (IBN Treatment) is required for the routing of IBN lines, incoming or two-way trunks to tones, announcements, or lamps on ACs.

  Note: Network Access Registers (NARS) requires that table IBNTREAT be datafilled if the overflow route for each NARS is an IBN treatment.

- Table NARDATA (Network Access Registers Data) defines all NARS in the DMS-100 switch. It indicates the throttle capability and overflow route for each NAR.
- Table IBNXLA (IBN Translation) includes option NARS to two translation selectors, NET and ROUTE.
- Table XLANAME (List of Translator Names) controls the addition and deletion of translators in table IBNXLA. Each translator is assigned an alphanumeric default value. When no access code is found in table IBNXLA for a particular translator, default data from table XLANAME is used.
- Table CUSTENG (Customer Group Engineering) lists the values for the engineering parameters and options for each of the customer groups.
- Table NCOS (Network Class of Service) describes the class of service assigned to AC, IBN stations, incoming or two-way IBN trunk groups, authorized codes, and customer groups.
- Table IBNRTE (IBN Route) contains route lists identified by a route reference index number.
- Table MMCONF (IBN Meet-Me Conference) is required for a DMS-100 switch with Meet-Me Conference.
- Table PRECONF (Preset Conference) contains information on IBN preset conferences in the office. For an IBN switching unit, the only conference type (field CONFTYPE) allowed is IBN.
- Table UCDGRP (Uniform Call Distribution Group) contains information on uniform call distribution (UCD) groups. A UCD group contains a primary UCD directory number (DN) and up to four supplementary UCD DNs. Each supplementary DN has associated with it a call priority of all calls terminating on this DN. Calls of a high priority are answered by agents before calls of a lower priority.

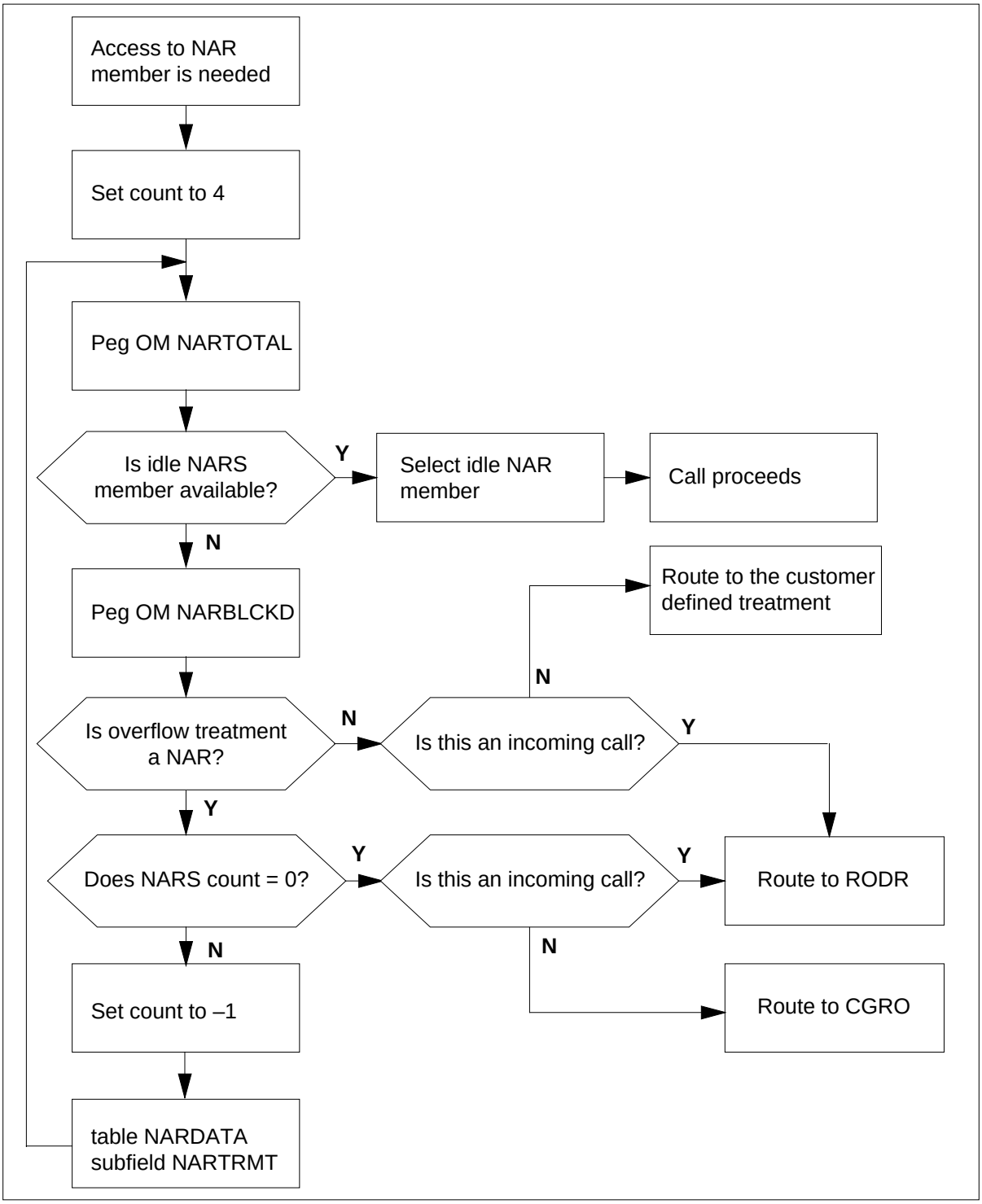
Network Access Registers (NARS) (continued)

- Table ACDGRP (Automatic Call Distribution Group) associates ACD features with specific customer groups.
- Table DNROUTE (Directory Number Route) contains information for writable DNs in the switch, such as a DN that identifies a route, rather than a line equipment number (LEN). Table DNROUTE associates a DN with a specific trunk group member.

The Network Access Registers (NARS) translation process is shown in the flowchart that follows. The flowchart and data show access to NARS members, translation controlled throttling of outgoing calls, route controller throttling of outgoing calls NOT selector, and route controlled throttling of outgoing calls CND selector.

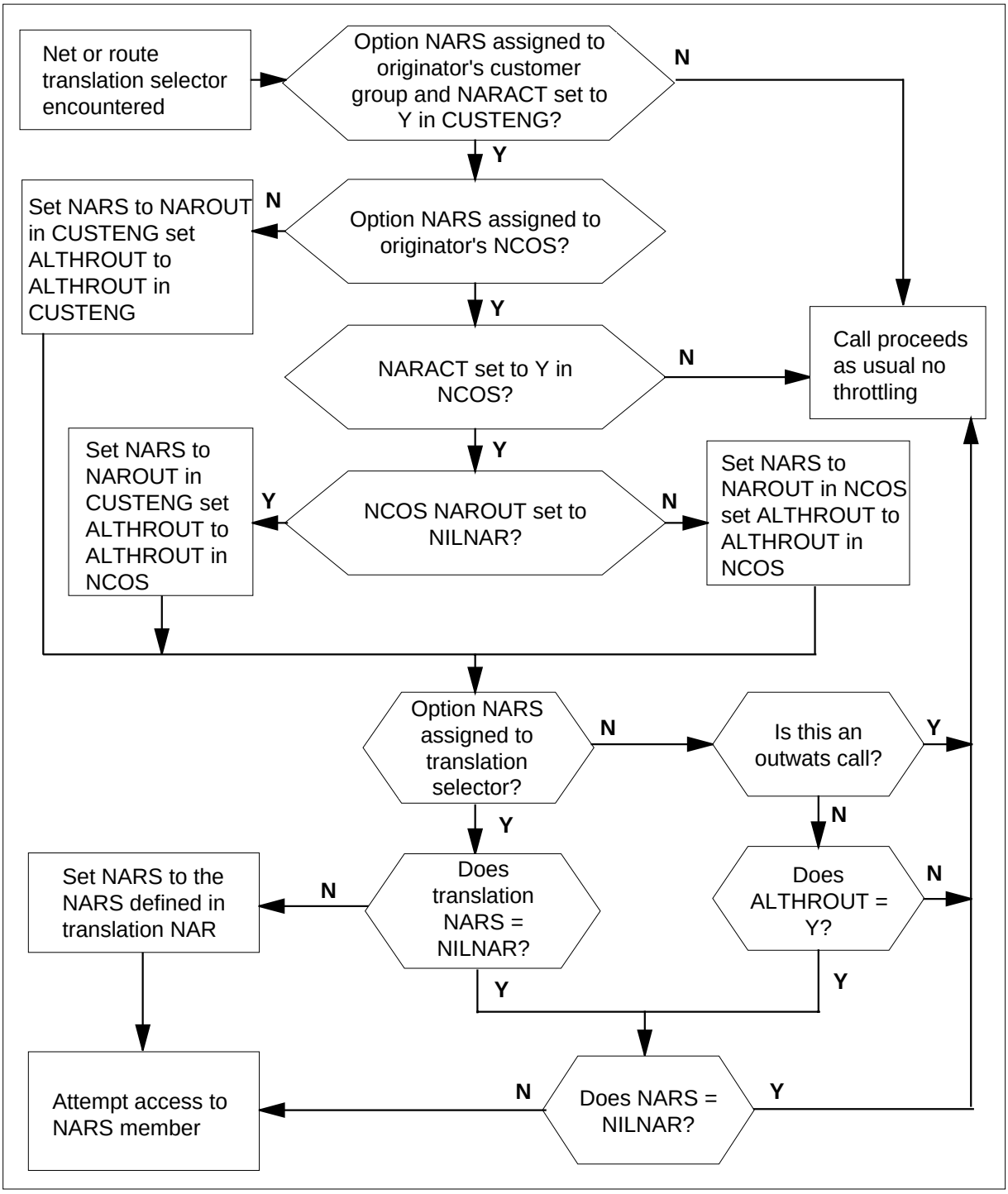
Network Access Registers (NARS) (continued)

Translations table flow for access to a network access register member



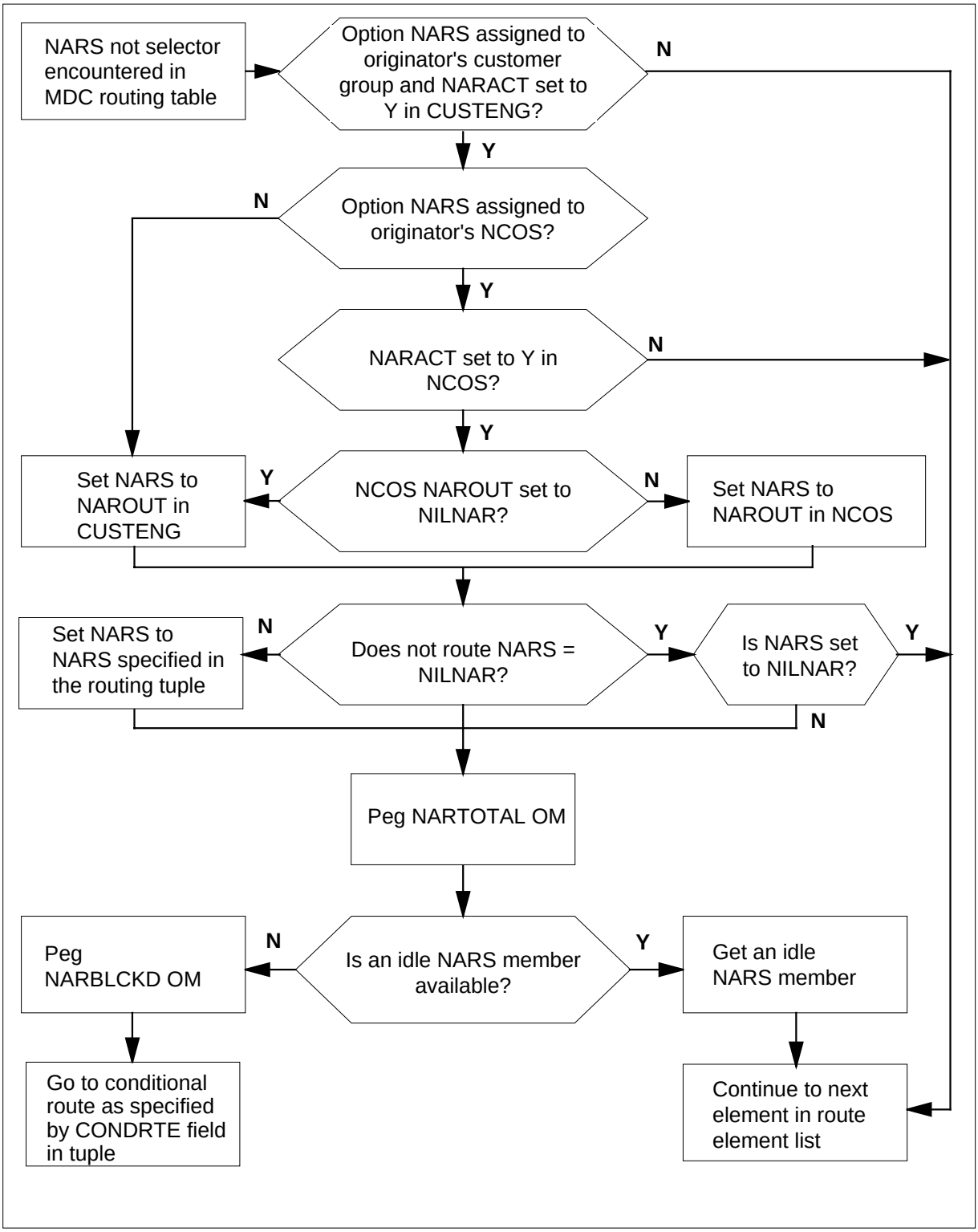
Network Access Registers (NARS) (continued)

Translations table flow for translation controlled throttling of outgoing calls



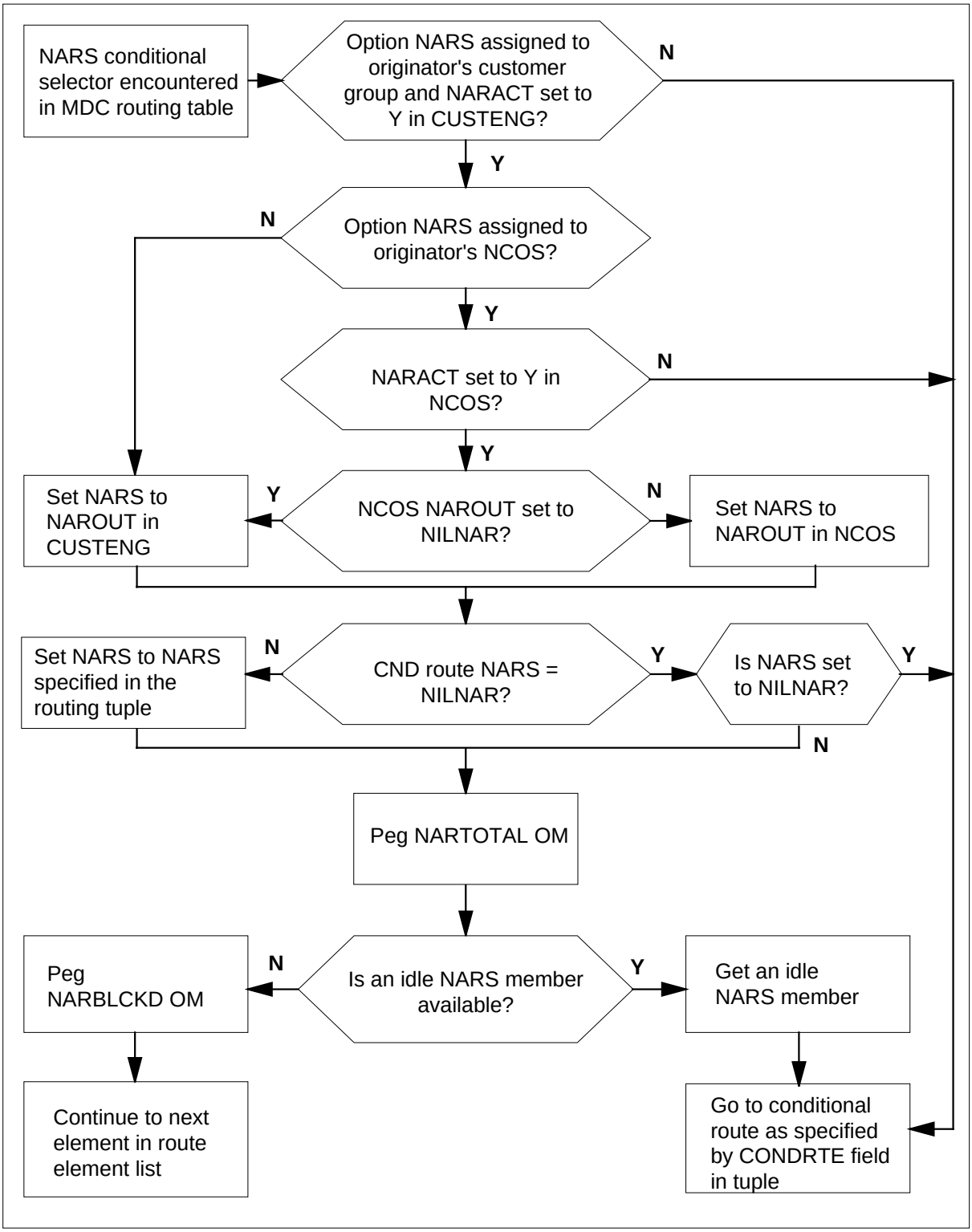
Network Access Registers (NARS) (continued)

Translations table flow for route controlled throttling of outgoing calls NOT selector



Network Access Registers (NARS) (continued)

Translations table flow for route controlled throttling of outgoing calls CND selector



Network Access Registers (NARS) (continued)

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

Datafill example for Network Access Registers (NARS)

Datafill table	Example data
NARDATA	NARGRP1 10 NARS NARGRP2
IBNXLA	NTIXLA 123 NET N N N 0 N POTS N Y DOD N 0 NONE NARS NARGRP2
XLANAME	POTSXLA NET N N N 0 N POTS N Y DOD N 0 NONE $) $ 9
CUSTENG	IBNDATA 30 1 Y N PRIVATE 0 NARS Y NARGRP2 NARGRP1 Y $
NCOS	IBNDATA 0 IDATA 0 0 NARS Y NARGRP1 NARGRP2 Y $
IBNRTE	12 (CND NARS NARGRP1 T OFRT 30) $
MMCONF	MDC 1 9195551212 0 Y N 6 CODEONLY (NARS NARGRP1) $
PRECONF	0 0 9195551212 D IBN IBNTST 0 N N N N N N ANNCLLI (NARS NARGRP1) $
DNROUTE	919 555 1212 FEAT DISA IBNTST 0 0 N N N Y (NARS NARGRP2) $
UCDGRP	NDLC0 N MDC1 0 OFRT 40 IBNRTE 88 0 16 N 1 0 0 16 (NARS NARGRP1) $
ACDGRP	ACDPSAP MDC1 0 IBNRTE 20 IBNRTE 30 0 N 1 256 N N NONE N N (NARS NARGRP1) $

Limitations and restrictions

The following limitations and restrictions apply to Network Access Registers (NARS):

- If option NARS is datafilled in tables CUSTENG and NCOS, the NARS values in table NCOS have precedence.
- Datafilling NILNARS in subfield NAROUT or subfield NARIN in table CUSTENG could cause a call not to be throttled. The call could continue without gaining access through a NAR.
- A call from a customer group terminating back into the same customer group could be throttled if translations and routing determine the call is throttleable. The same result occurs if the originator and terminator are on the same line.
- In table IBNXLA or table XLANAME, subfield NARNAME cannot be set to NILNARS when network type GEN is selected, and options OW, EWAUTH, ESN, or PVN are present.

- Calls using selectors NET OWT and NET GEN with options OW or EWAUTH are not throttled.
- Option NARS is allowed for table PRECONF only if the following is true:
  - — subfield CONFEREE must be set to 0
  - — subfield CLASS must be set to D
  - — subfield CONFTYPE must be set to IBN

Interactions

The following paragraphs describe the interactions between Network Access Registers (NARS) and other functionalities.

- Call Forwarding. When a call reaches a station with Call Forwarding (CFW) activated and a NARS is encountered on the forwarded route, the call requires access to a NARS member before it can proceed.

  When Call Forwarding Do Not Answer (CFDA) is activated and the forwarded station is busy, the call is not forwarded. The call needs to route to the forwarded station to determine if the call can be forwarded. If the call from the base station to the forwarded station is throttled, then a NARS member is assigned to the call. If the call is unable to terminate on the forwarded station, then the selected NARS member is released.

  When a forwarded number is programmed on an MDC station, NARS is not accessed even if the CFW validation with termination is activated.
- Call transfer. (CXR) When a call is transferred and a NARS is encountered on the transferred to location, the call requires access to a NARS member before it can proceed. When the transferring party drops out of the call, any NARS members attached to the call remain attached and will decrement the available NARS accordingly. For example: A call from party A to party B is throttleable and an incoming NARS is attached. Party B transfers the call to party C. The call from B to C is also throttleable and an outgoing NARS is attached. When B drops out of the call, both the incoming and outgoing NARS members remain attached to the call between parties A and C .
- Hunt groups. Calls made to hunt groups use the customer group and NCOS of the pilot hunt member to throttle the incoming call to the hunt group. Calls from hunt group members use the customer group and NCOS assigned to the hunt group member.
- Multiple Appearance Directory Numbers. Calls terminating on Multiple Appearance Directory Numbers (MADN) groups use the customer group and NCOS of the primary MADN member to determine if the call should be throttled.

Network Access Registers (NARS) (continued)

- Attendant Consoles. Calls terminating on AC use the customer group NARS. Network class of service-based NARS does not apply to calls terminating on an AC.
- Direct Inward System Access. Outgoing NARS members can access the following three NCOS direct inward system access (DISA) calls:
  - — DISA calls can use the NCOS specified by the external NCOS in table CUSTHEAD (Customer Group Head).
  - — DISA calls can be assigned option NCOSOPT in table DNROUTE.
  - — DISA calls can be used with Authorization Codes by setting field AUTHREQ to Y in table DNROUTE.

  If field AUTHREQ is set to N and option NCOSOPT is assigned in table DNROUTE, NARS uses the NCOS specified by option NCOSOPT. If field AUTHREQ is set to N and option NCOSOPT is not assigned in table DNROUTE, NARS uses the external NCOS specified in table CUSTHEAD. If field AUTHREQ is set to Y, NARS uses the NCOS specified in table AUTHCDE (Authorization Code).
- Series Completion. Calls terminating on lines with option SCMP use the customer group and NCOS of the dialed line to determine if the call is to be throttled.
- Ring Again. When a call has been restricted from terminating due to NARS being unavailable, the caller cannot activate Ring Again (RAG) or Network Ring Again (NRAG) because the call is terminating on the NARS overflow treatment instead of on a busy line or busy trunk. Ring Again and NRAG require the call to terminate on a busy called party.

  When a caller with RAG or NRAG makes a call using a NARS and the called party is busy, the caller can activate RAG or NRAG. When the called party goes on-hook, RAG or NRAG rings the caller's line. When the caller goes off-hook, the system retranslates the call. The call cannot terminate if there are no NARS members available.
- Call Back Queuing. When a call has been restricted from terminating due to NARS being unavailable, the caller cannot activate Call Back Queuing (CBQ). This is because the call is terminating on the NARS overflow treatment instead of a busy line or busy trunk. Call Back Queuing requires the call to terminate on a busy called party.

  When a caller with CBQ makes a call using a NARS and the called party is busy, the caller can activate CBQ. When the called party goes on-hook, CBQ rings the caller's line. When the caller goes off-hook, the system retranslates the call. The call cannot terminate if there are no NARS members available.

- Automatic Call Back. An end user can activate Automatic Call Back (ACB) for calls that require access to a NAR. After ACB has been activated, the caller is rung when the called party goes on-hook. When the caller goes off-hook, the system retranslates the call. The call routes to the NARS overflow treatment if there are no NARS members available.
- Automatic Recall. An end user can activate Automatic Recall (AR) for calls that require access to a NAR. After AR has been activated, the caller is rung when the called party goes on-hook. When the caller goes off-hook, the system retranslates the call. The call routes to the NARS overflow treatment if there are no NARS members available.
- Last Number Redial. When an end user activates Last Number Redial (LNR) and the route requires NARS access, the call must gain access through the NARS before terminating.
- Overlap Carrier Selection. Overlap Carrier Selection is allowed with NARS.
- Overlap Outpulsing. Overlap Outpulsing is allowed with NARS.
- Emergency Stand-Alone. Emergency Stand-Alone (ESA) is not permitted with NARS.

Activation/deactivation by the end user

Network Access Registers (NARS) requires no activation or deactivation by the end user.

Billing

Network Access Registers (NARS) does not affect billing.

Station Message Detail Recording

Network Access Registers (NARS) does not affect Station Message Detail Recording.

Datafilling office parameters

Network Access Registers (NARS) does not affect office parameters.

Network Access Registers (NARS) (continued)

Datafill sequence

The following table lists the tables that require datafill to implement Network Access Registers (NARS). The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Network Access Registers (NARS)

Table	Purpose of table
NARDATA	Network Access Registers Data. This table defines all NARS in the DMS-100 switch. It indicates the throttle capability and overflow route for each NAR.
IBNXLA	Network Access Registers (NARS) adds option NARS to two translation selectors, NET and ROUTE, to table IBNXLA.
XLANAME	List of Translator Names. This table controls the addition and deletion of translators in table IBNXLA.
CUSTENG	Customer Group Engineering. This table lists the values for the engineering parameters and options for each of the customer groups.
NCOS	Network Class of Service. This table describes the class of service assigned to AC, IBN stations, incoming or two-way IBN trunk groups, authorized codes, and customer groups.
IBNRTE	IBN Route. This table contains route lists identified by a route reference index number.
MMCONF	IBN Meet-Me Conference. This table is required for a DMS-100 switch with Meet-Me Conference.
PRECONF	Preset Conference. This table contains information on IBN preset conferences in the office.
DNROUTE	Directory Number Route. This table contains information for writable DNs in the switch, such as a DN that identifies a route rather than a LEN.
UCDGRP	Uniform Call Distribution Group. This table contains information on UCD groups.
ACDGRP	Automatic Call Distribution Group. This table associates ACD features with specific customer groups.

Datafilling table NARDATA

Table NARDATA (Network Access Registers Data) defines all NARS in the DMS-100 switch. It indicates the throttle capability and overflow route for each NAR.

Table NARDATA is indexed by field NARNAME. Each tuple has two fields: SIZE and OVFLRTE. Field SIZE indicates the throttling capability. Field

Network Access Registers (NARS) (continued)

OVFLRTE specifies the alternate route used when there is no access available through the NAR. The route can be either an IBN treatment (defined in table IBNTREAT) or another NARS name.

The following table shows the datafill specific to Network Access Registers (NARS) for table NARDATA. Only those fields that apply directly to Network Access Registers (NARS) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table NARDATA

Field	Subfield or refinement	Entry	Explanation and action
NARNAME		up to 16 characters	NARS Name. This field specifies the name of the NARS for the DMS-100 switch. Enter the name of the NARS up to 16 alphanumeric characters long.
SIZE		0 to 2047	Size. This field specifies the number of members assigned to the NAR. Enter a number from 0 to 2047. ***Note:*** A value of 0 indicates no access.
OVFLRTE		see subfields	Overflow Route. This field consists of subfield NARTRMT.
	NARTRMT	OUTTRMT or NAR	NARS Treatment Area. This subfield specifies whether the overflow route is an IBN treatment or a NARS name. Enter OUTTRMT or NAR. ***Note:*** If NARTRMT is set to OUTTRMT, subfield IBNTRTMT requires datafill.
	IBNTRTMT	0 to 63	IBN Treatment. This subfield specifies that a valid IBN treatment is required. Enter the number from 0 to 63 used in table IBNTREAT. ***Note:*** If NARTRMT is set to NAR, subfield NARNAME requires datafill.
	NARNAME	NAR name	NARS Name. This subfield specifies the name of the overflow treatment. Enter the name of the NAR. ***Note:*** The entry for this subfield cannot be the same NARS name used in field NARNAME.

Network Access Registers (NARS) (continued)

Datafill example for table NARDATA

The following example shows sample datafill for table NARDATA.

MAP display example for table NARDATA

```
NARNAME     SIZE                                OVFLRTE
_____________________________________________________________
NARGRP1     10                        NAR       NARGRP2
```

Datafilling table IBNXLA

Network Access Registers (NARS) adds option NARS to two translation selectors, NET and ROUTE, to table IBNXLA.

Option NARS is applicable to the following network types:

- DOD
- ESN
- PVT
- OWT
- MBG
- LOC
- GEN

Note: Network types ESN and OWT can never be set to NILNARS.

Option NARS is applicable to the following route selector types:

- S
- T
- L

If subfield NETOPTNS or subfield RTEOPTNS is set to NARS, subfield NARNAME must be datafilled. The entry for subfield NARNAME must be a valid NARS name datafilled in table NARDATA, or can be set to NILNAR.

Network Access Registers (NARS) (continued)

The following network types can be set to NILNARS in subfield NARNAME:

- DOD
- MBG
- LOC

> ***Note:*** Network type GEN can also be set to NILNARS in subfield NARNAME if route selector type S, T, or L is used.

The following table shows the datafill specific to Network Access Registers (NARS) for table IBNXLA. Only those fields that apply directly to Network Access Registers (NARS) 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		see subfields	Key. This field consists of subfields XLANAME and DGLIDX.
	XLANAME	1 to 8	Translator Name. This subfield specifies the name that is assigned to the translator. Enter the 1- to 8-character name.
	DGLIDX	1 to 18	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 consists of subfield TRSEL.
	TRSEL	NET or ROUTE	Translation Selector. This subfield specifies the translations selector to be used. Enter NET or ROUTE. ***Note:*** If TRSEL is set to NET, subfields NETYPE and NETOPTNS require datafill.
	NET_TYPE	PVT, LOC, MBG, ESN, OWT, DOD, or GEN	Network Type. This subfield specifies the network type. Enter PVT, LOC, MBG, ESN, OWT, DOD, or GEN.

Network Access Registers (NARS) (continued)

Datafilling table IBNXLA (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	NETRTOPT	NARS	Network Options. This subfield specifies a network option selector. Enter NARS.
	NARNAME	NARS name or NILNAR	NARS Name. This subfield specifies the name of the NARS through which a call must pass in order to continue. Enter the NARS name or enter NILNAR.

Datafill example for table IBNXLA

The following example shows sample datafill for table IBNXLA.

MAP display example for table IBNXLA

```
   KEY
                                                RESULT
_____________________________________________________________________
   NTIXLA 123 NET N N N 0 N POTS N Y DOD N 0 NONE NARS
NARGRP2
```

Datafilling table XLANAME

Table XLANAME (List of Translator Names) controls the addition and deletion of translators in table IBNXLA. Each translator is assigned an alphanumeric default value. When no access code is found in table IBNXLA for a particular translator, default data from table XLANAME is used.

Option NARS applies to the following network types:

- DOD
- ESN
- PVT
- OWT
- MBG
- LOC
- GEN

Note: Network types ESN and OWT can never be set to NILNARS.

Network Access Registers (NARS) (continued)

Option NARS is applies to the following route selector types:

- S
- T
- L

If subfield NETOPTNS or subfield RTEOPTNS is set to NARS, subfield NARNAME must be datafilled. The entry for subfield NARNAME must be a valid NARS name datafilled in table NARDATA, or it can be set to NILNAR.

The following network types can be set to NILNARS in subfield NARNAME:

- DOD
- MBG
- LOC

> ***Note:*** Network type GEN can also be set to NILNARS in subfield NARNAME if route selector type S, T, or L is used.

The following table shows the datafill specific to Network Access Registers (NARS) for table XLANAME. Only those fields that apply directly to Network Access Registers (NARS) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table XLANAME

Field	Subfield or refinement	Entry	Explanation and action
DEFAULT		see subfields	Default Data. This field consists of the translation subfield selector TRSEL and the refinement subfields dependent on the selector.
	TRSEL	NET or ROUTE	Translation Selector. This subfield specifies the translation selector. Enter NET or ROUTE. ***Note:*** If TRSEL is set to NET, subfield NETOPTNS requires datafill.
	NETRTOPT	NARS	Network Options. This subfield specifies a network option selector. Enter NARS.
	NARNAME	NARS name or NILNAR	NARS Name. This subfield specifies the name of the NARS through which a call must pass in order to continue. Enter the NARS name or NILNAR.

Network Access Registers (NARS) (continued)

Datafill example for table XLANAME

The following example shows sample datafill for table XLANAME.

MAP display example for table XLANAME

```
XLANAME                          DEFAULT      MAXDIGS
_____________________________________________________________
POTSXLA NET N N N 0 N  POTS N Y  DOD N  0 NONE $) $  9
```

Datafilling table CUSTENG

Table CUSTENG (Customer Group Engineering) lists the values for the engineering parameters and options for each of the customer groups.

Option NARS is added to tables CUSTENG and NCOS, but it must be added to table CUSTENG before it is added to table NCOS. After option NARS is added to table CUSTENG, it can be assigned to one of the customer's NCOS groups in table NCOS, which is where the default incoming and outgoing NCOS-based NARS names are assigned. If a line's NCOS and customer groups both have option NARS, option NARS in table NCOS has precedence over option NARS in table CUSTENG.

Option NARS includes subfield NARACT, which indicates if throttling is active for the specified customer group. If subfield NARACT is set to N, calls continue without throttling for the entire customer group. The end user can add other NARS datafill for the customer group before Network Access Registers (NARS) is activated. All incoming and outgoing calls terminate without accessing a NARS member. A warning message is displayed if field NARACT is set to N. If subfield NARACT is set to Y, subfields NARIN, NAROUT, and ALTHROUT can be datafilled.

Subfield NARIN identifies the default NARS name used to throttle incoming calls to the customer group, and subfield NAROUT identifies the default NARS name used to throttle outgoing calls from the customer group as defined in table NARDATA. NILNARS can be entered for subfields NARIN and NAROUT. If NILNARS is entered in table NCOS, option NARS from table CUSTENG is used for throttling. Throttling cannot occur for incoming and outgoing calls if NILNARS is entered for subfields NARIN and NAROUT in table CUSTENG and no NCOS option is available.

Subfield ALTHROUT controls which outgoing call types are throttleable for the specified customer group. If subfield ALTHROUT is set to N, the decision to throttle is determined during translations. The translation selector requires option NARS before the call can be throttled. If subfield ALTHROUT is set to Y, all outgoing throttleable calls (except OUTWATS calls) are throttled. If

Network Access Registers (NARS) (continued)

subfield ALTHROUT is set to Y, no throttling of OUTWATS calls occurs. The NET OWT or the NET GEN with options OW or EWAUTH requires option NARS to ensure NARS throttling of OUTWATS calls for the specified customer group.

The following table shows the datafill specific to Network Access Registers (NARS) for table CUSTENG. Only those fields that apply directly to Network Access Registers (NARS) 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		NARS	Options. This field specifies the option. Enter NARS. ***Note:*** If OPTIONS is set to NARS, subfield NARACT requires datafill.
	NARACT	Y or N	NARS Activated. This subfields specifies if throttling is to be turned on or off for the entire customer group. Enter Y to turn throttling on. Enter N to turn throttling off. ***Note:*** If NARACT is set to Y, subfields NARIN, NAROUT, and ALTHROUT require datafill.
	NARIN	incoming NARS name or NILNAR	Incoming NARS Name. This subfield specifies the incoming NARS name, as defined in table NARDATA. Enter the incoming NARS name or NILNAR.
	NAROUT	outgoing NARS name or NILNAR	Outgoing NARS Name. This subfield specifies the outgoing NARS name, as defined in table NARDATA. Enter the outgoing NARS name or NILNAR.
	ALTHROUT	Y or N	All Throttle. This subfield specifies whether all throttleable outgoing calls should be throttled. Enter Y or N.

Datafill example for table CUSTENG

The following example shows sample datafill for table CUSTENG.

Network Access Registers (NARS) (continued)

MAP display example for table CUSTENG

```
   CUSTNAME  NONCOS  NOIBNTMT  CONSOLES  DOMAIN
                         GROUPID    OPTIONS
_____________________________________________________
   IBNDATA   30      1         Y        PRIVATE
                       0     (NARS Y NARGRP2 NARGRP1 Y) $
```

Datafilling table NCOS

Table NCOS (Network Class of Service) describes the class of service assigned to AC, IBN stations, incoming or two-way IBN trunk groups, authorized codes, and customer groups.

Option NARS must be added to table CUSTENG before it can be assigned to one of the customer's NCOS groups in table NCOS, which is where the default incoming and outgoing NARS names are assigned. If a line's NCOS and customer groups both have option NARS, option NARS in table NCOS has precedence over option NARS in table CUSTENG.

Option NARS includes subfield NARACT, which indicates if throttling is active for the specified NCOS group. If subfield NARACT is set to N, calls continue without throttling just for the specified NCOS group. All incoming and outgoing calls terminate without accessing a NARS member.

If subfield NARACT is set to Y, subfields NARIN, NAROUT, and ALTHROUT can be datafilled. Subfields NARIN and NAROUT are datafilled with the incoming and outgoing NARS names as defined in table NARDATA. NILNARS can be entered for subfields NARIN and NAROUT. If NILNARS is entered in table NCOS, option NARS in table CUSTENG is used for throttling. Subfield ALTHROUT controls which outgoing call types are throttleable for the specified NCOS group. If subfield ALTHROUT is set to N, throttling is determined during translation. The translation selector requires option NARS before the call can be throttled. If subfield ALTHROUT is set to Y, outgoing calls are throttled. (The exception to this is OUTWATS calls. The NET OWT or NET GEN with options OW or EWAUTH require option NARS to throttle OUTWATS calls.)

The following table shows the datafill specific to Network Access Registers (NARS) for table NCOS. Only those fields that apply directly to Network

Network Access Registers (NARS) (continued)

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

Datafilling table NCOS

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		NARS	Options. This field specifies the option. Enter NARS. ***Note:*** If OPTIONS is set to NARS, subfield NARACT requires datafill.
	NARACT	Y or N	NARS Activated. This subfields specifies if throttling is to be turned on or off for the entire customer group. Enter Y to turn throttling on. Enter N to turn throttling off. ***Note:*** If NARACT is set to Y, subfields NARIN, NAROUT, and ALTHROUT require datafill.
	NARIN	incoming NARS name or NILNAR	Incoming NARS Name. This subfield specifies the incoming NARS name, as defined in table NARDATA. Enter the incoming NARS name or NILNAR.
	NAROUT	outgoing NARS name or NILNAR	Outgoing NARS Name. This subfield specifies the outgoing NARS name, as defined in table NARDATA. Enter the outgoing NARS name or NILNAR.
	ALTHROUT	Y or N	All Throttle. This subfield specifies whether all throttleable outgoing calls should be throttled. Enter Y or N.

Datafill example for table NCOS

The following example shows sample datafill for table NCOS.

MAP display example for table NCOS

```
CUSTGRP   NCOS   NCOSNAME   LSC   TRAFSNO         OPTIONS
_____________________________________________________________
IBNDATA   0      IDATA     0    0   NARS Y NARGRP1 NARGRP2 Y $
```

Network Access Registers (NARS) (continued)

Datafilling table IBNRTE

Table IBNRTE (IBN Route) contains route lists identified by a route reference index number.

Network Access Registers (NARS) adds datafillable conditional selector NARS to the IBN selectors CND and NOT. Subfield NARNAME identifies the NARS through which a call needs to gain access in order to continue. If NILNARS is entered in subfield NARNAME and the originator's NCOS or the customer group has option NARS, then the outgoing NARS name from table NCOS or the customer outgoing NARS name is used for access.

If the NARS member is available, the system continues to the next route element. If the NARS member is not available, the system uses the conditional route defined by the IBN route selector NOT NARS.

If the NARS member is available, the system uses the conditional route defined by the IBN route selector CND NARS. If the NARS member is not available, the system continues to the next route element.

The following table shows the datafill specific to Network Access Registers (NARS) for table IBNRTE. Only those fields that apply directly to Network Access Registers (NARS) 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 subfields	Route List. This field consists of several subfields. Subfields IBNRTSEL and CONDITION pertain to Network Access Registers (NARS).
	IBNRTSEL	CND or NOT	IBN Route Selector. This subfield specifies the route selector. Enter CND for conditional routes. Enter NOT for negative conditional branching.
	CONDITION	see subfields	Condition. This subfield consists of several subfields. Subfield CNDSEL pertains to Network Access Registers (NARS).

Network Access Registers (NARS) (continued)

Datafilling table IBNRTE (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	CNDSEL	NARS	Conditional Selector. This subfield specifies the conditional selector. Enter NARS. ***Note:*** If CNDSEL is set to NARS, subfield NARNAME requires datafill.
	NARNAME	NARS or NILNAR	NARS Name. This subfield specifies the name of the NARS through which a call must pass in order to continue. Enter the NARS name or enter NILNAR.

Datafill example for table IBNRTE

The following example shows sample datafill for table IBNRTE.

MAP display example for table IBNRTE

```
RTE                                                  RTELIST
_____________________________________________________________
12                          (CND NARS NARGRP1 T OFRT 30) $
```

Datafilling table MMCONF

Table MMCONF (IBN Meet-Me Conference) is required for a DMS-100 switch with Meet-Me Conference.

Network Access Registers (NARS) adds field OPTIONS to table MMCONF. Option NARS requires NARS access for calls terminating to a meet-me conference. Subfield NARNAME identifies the NARS through which a call needs to gain access before terminating on the feature. If NILNARS is entered for subfield NARNAME, the entry from option NARS in table CUSTENG is used.

The following table shows the datafill specific to Network Access Registers (NARS) for table MMCONF. Only those fields that apply directly to Network

Network Access Registers (NARS) (continued)

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

Datafilling table MMCONF

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		NARS	Options. This field specifies the options. Enter NARS. ***Note:*** If OPTIONS is set to NARS, subfield NARNAME requires datafill.
	NARNAME	NARS narme or NILNAR	NARS Name. This subfield specifies the name of the NARS through which a call must pass in order to continue. Enter the NARS name or enter NILNAR.

Datafill example for table MMCONF

The following example shows sample datafill for table MMCONF.

MAP display example for table MMCONF

```
LKEY SNPA NNX   DEFGDIGS       LSCOMB    DID     DIDORIG
SIZE CONFTYPE
                                                 OPTIONS
_____________________________________________________________
MDC 1 919 555   1212            0         Y      N
6    CODEONLY
                                         (NARS NARGRP1) $
```

Datafilling table PRECONF

Table PRECONF (Preset Conference) contains information on IBN preset conferences in the office. For an IBN switching unit, the only conference type allowed is IBN.

Network Access Registers (NARS) adds field OPTIONS to table PRECONF. Option NARS requires NARS access for calls terminating to a preset conference. Subfield NARNAME identifies the NARS through which a call needs to gain access before terminating on the feature. If NILNARS is entered for subfield NARNAME, the entry from option NARS in table CUSTENG is used.

The following table shows the datafill specific to Network Access Registers (NARS) for table PRECONF. Only those fields that apply directly to Network Access Registers (NARS) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table PRECONF

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		NARS	Options. This field specifies the options. Enter NARS. ***Note:*** If OPTIONS is set to NARS, subfield NARNAME requires datafill.
	NARNAME	NARS name or NILNAR	NARS Name. This subfield specifies the name of the NARS through which a call must pass through in order to continue. Enter the NARS name or NILNAR.

Datafill example for table PRECONF

The following example shows sample datafill for table PRECONF.

MAP display example for table PRECONF

```
PCNFKEY    CONFADDR                  PCNFVAR
                                                OPTIONS
_____________________________________________________________
0  0       9195551212  D IBN IBNTST 0 N N N N N N ANNCLLI
                                        (NARS NARGRP1) $
```

Datafilling table DNROUTE

Table DNROUTE (Directory Number Route) contains information for writable DNs in the switch, such as a DN that identifies a route rather than a LEN. Table DNROUTE associates a DN with a specific trunk group member.

Network Access Registers (NARS) adds option NARS to table DNROUTE when the DN selector FEAT and feature DISA are used. Subfield NARNAME identifies the NARS through which a call needs to gain access before terminating on the feature. If NILNARS is entered for subfield NARNAME, the entry from option NARS in table CUSTENG is used.

The following table shows the datafill specific to Network Access Registers (NARS) for table DNROUTE. Only those fields that apply directly to Network

Network Access Registers (NARS) (continued)

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

Datafilling table DNROUTE

Field	Subfield or refinement	Entry	Explanation and action
DNRESULT		see subfields	Directory Number Results. This field consists of several subfields. Subfields DN_SEL, FEATURE, and DISAOPT pertain to Network Access Registers (NARS).
	DN_SEL	FEAT	Directory Number Selector. This subfield specifies the DN selector. Enter FEAT.
	FEATURE	DISA	Feature. This subfield specifies the feature. Enter DISA.
	DISAOPT	NARS	DISA Options. This subfield specifies the option or options required. Enter NARS. ***Note:*** If DISAOPT is set to NARS, subfield NARNAME requires datafill.
	NARNAME	NARS name or NILNAR	NARS Name. This subfield specifies the name of the NARS through which a call must pass in order to continue. Enter the NARS name or NILNAR.

Datafill example for table DNROUTE

The following example shows sample datafill for table DNROUTE.

MAP display example for table DNROUTE

```
AREACODE OFCCODE STNCODE                          DNRESULT
_____________________________________________________________
919      555     1212    FEAT DISA IBNTST 0 0 N N N Y NARS
NARGRP2 $
```

Datafilling table UCDGRP

Table UCDGRP (Uniform Call Distribution Group) contains information on UCD groups. A UCD group contains a primary UCD DN and up to four supplementary UCD DNs. Each supplementary DN has associated with it a call priority of all calls terminating on this DN. Calls of a high priority are answered by agents before calls of a lower priority.

Network Access Registers (NARS) (continued)

Network Access Registers (NARS) adds option NARS to table UCDGRP. Subfield NARNAME identifies the NARS through which a call needs to gain access before terminating on the feature. If NILNARS is entered for subfield NARNAME, the entry from option NARS in table CUSTENG is used.

The following table shows the datafill specific to Network Access Registers (NARS) for table UCDGRP. Only those fields that apply directly to Network Access Registers (NARS) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table UCDGRP

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		NARS	Options. This field specifies the options. Enter NARS. ***Note:*** If OPTIONS is set to NARS, subfield NARNAME requires datafill.
	NARNAME	NARS name or NILNAR	NARS Name. This subfield specifies the name of the NARS through which a call must pass in order to continue. Enter the NARS name or NILNAR.

Datafill example for table UCDGRP

The following example shows sample datafill for table UCDGRP.

MAP display example for table UCDGRP

```
UCDNAME  ACD  CUSTGRP  UCDRNGTH  THROUTE  NSROUTE PRIOPRO
MAXPOS  DBG  DEFPRIO  RLSCNT  MAXWAIT  MAXCQSIZ  OPTIONS
_____________________________________________________________
 NDLC0    N    MDC1     0       OFRT 40   IBNRTE 88 0
16     N     1       0    0 16 (NARS NARGRP1) $
```

Datafilling table ACDGRP

Table ACDGRP (Automatic Call Distribution Group) associates ACD features with specific customer groups.

Network Access Registers (NARS) adds option NARS to table ACDGRP. Subfield NARNAME identifies the NARS through which a call needs to gain access before terminating on the feature. If NILNARS is entered for subfield NARNAME, the entry from option NARS in table CUSTENG is used.

Network Access Registers (NARS) (end)

The following table shows the datafill specific to Network Access Registers (NARS) for table ACDGRP. Only those fields that apply directly to Network Access Registers (NARS) are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table ACDGRP

Field	Subfield or refinement	Entry	Explanation and action
OPTIONS		NARS	Options. This field specifies the options. Enter NARS. ***Note:*** If OPTIONS is set to NARS, subfield NARNAME requires datafill.
	NARNAME	NARS name or NILNAR	NARS Name. This subfield specifies the name of the NARS through which a call must pass in order to continue. Enter the NARS name or NILNAR.

Datafill example for table ACDGRP

The following example shows sample datafill for table ACDGRP.

MAP display example for table ACDGRP

```
ACDNAME  CUSTGRP  ACDRNGTH  THROUTE    NSROUTE    PRIOPRO
 DBG
   MAXCQSIZ  MAXWAIT  ACDMIS  MSQS  DISTRING  OBSWTONE
 FRCNGTSV  OPTIONS
 ____________________________________________________________
 ACDPSAP  MDC1    0  IBNRTE 20  IBNRTE 30  0         N
   1 256 N N NONE    N
 N(NARS NARGRP1) $
```

Translation verification tools

Network Access Registers (NARS) does not use translation verification tools.

SERVORD

Network Access Registers (NARS) does not use SERVORD.

7 Datafilling MDC Name/DN Blocking

The following chapter describes the MDC Name/DN Blocking, MDC00033, functionality.

Block Calling Name/Number Delivery Blocking per Call

Ordering codes

Functional group ordering code: MDC00033

Functionality ordering code: not applicable

Release applicability

BCS29 and up

Prerequisites

To operate, Block Calling Name/Number Delivery Blocking per Call has the following prerequisites:

- MDC Minimum, MDC00001
- MDC Standard, MDC00003
- MDC Business Set Minimum, MDC00007
- MDC Business Set Standard, MDC00008

Description

Block Calling Name/Number Delivery Blocking per Call allows end users to specify on a call-by-call basis whether they would like their station numbers, names, or both to be transmitted to the called parties in an MDC group. After Block Calling Name/Number Delivery Blocking per Call is activated, information at the terminating station is either suppressed (the display of information is stopped) or, if the caller has subscribed to permanent call blocking, the information is displayed at the discretion of the caller.

Block Calling Name/Number Delivery Blocking per Call is automatically available for use by end users who have line option CNDB assigned to their lines or who are members of a customer group that has the CNDB group option assigned.

On receiving a call, a called party using an M5000 series Meridian business set (MBS) with display sees one of the following on his or her set:

- name only
- number only
- name and number
- no display information

Block Calling Name/Number Delivery Blocking per Call (continued)

Operation

The system transmits the end user's directory number (DN) and name to a display on the set of the called party. The calling party can either block the display of this information on a call-by-call basis or turn off the display permanently. To selectively block the information displayed on the called party's set, the calling party first enters a three-digit feature access code before dialing the required DN. Display control features let callers without permanent call blocking turn off all or part of the display, while callers with permanent call blocking can turn on all or part of the display. Without Block Calling Name/Number Delivery Blocking per Call, callers cannot control the display of DNs and names from their stations, although suppression can be controlled through datafill.

The levels of suppression control are as follows:

- End user level suppression
  - — A default suppression status can be assigned to individual lines on a logical network basis in Table DNATTRS (Directory Number Attributes). The name displays if the terminator's group has option NAMEDISP. The name is suppressed by removing option NAMEDISP from the line.
  - — The Service Order System (SERVORD) can also be used to control display of information through option SUPPRESS.
- Group level suppression. A group or block of DNs can be assigned a default suppression status on a logical network basis in Table DNGRPS (Directory Number Groups).
- Office level suppression. All DNs assigned in an office can be suppressed through Table NETNAMES (Internal Logical Network Names). When enabled, this level overrides all other suppression levels.

MDC, one-party flat rate line (1FR), one-party message rate line (1MR), or Subscriber Services (RES) lines with CNDB can toggle DN suppression for each call. Loads must contain feature package NTXE46AA, Calling Name/Number Delivery Blocking, for this feature to work. MBS end users cannot use CNDB.

MDC end users can control the delivery of their DNs and names each time they place calls. Block Calling Name/Number Delivery Blocking per Call introduces three different feature access codes:

- Calling Number Delivery Blocking (CNDB) toggles the DN default suppression for a call through Table DNGRPS or Table DNATTRS. Line or group end users of CNDB can use this feature to control the suppression of a DN. For example, a CNDB customer group option end user whose DN

Block Calling Name/Number Delivery Blocking per Call (continued)

is not suppressed by table control can dial the CNDB feature access code before placing a call. While this action does not suppress the name of the originator, the DN is suppressed for that call.

- Calling Number Blocking (CNB) suppresses the DN for a call. Because CNB does not allow the caller to toggle DN default suppression, an end user with permanent call blocking cannot use this feature to display a DN. A line or group CNB end user would use this feature to make certain that his or her DN is not displayed.
- Calling Number and Name Blocking (CNNB) suppresses the caller's DN and name for a call. Because CNNB does not allow the caller to toggle DN and name default suppression, permanent call blocking end users cannot display a DN and name with this feature. Line or group end users of CNB can only use this feature to suppress the DN and name for any calls they originate. An end user whose DN is normally suppressed can also use this feature to stop display of the name. The CNNB feature has no effect for the end user who does not have option NAMEDISP and whose DN name is normally suppressed.

Line or group end users can use these feature access codes for any calls they originate. CNDB, CNB, or CNNB feature access codes can be dialed prior to authorization codes.

The end user goes off-hook, dials the CNDB, CNB, or CNNB feature access code, receives one of the following system responses, and then dials the DN:

- special dial tone or confirmation announcement if the feature is allowed

  Note: The announcement is only provided if it is specified by the appropriate datafill in Table RESOFC (Residential Line CLASS Office Data) and Table CUSTSTN (Customer Group Station Option).

- feature not allowed (FNAL) treatment if the feature is not allowed
- no software resources (NOSR) treatment if a system failure occurs
- partial dial (PDIL) treatment if the end user dials a partial DN

Translations table flow

The Block Calling Name/Number Delivery Blocking per Call translations tables are described in the following list:

- Table IBNXLA (IBN Translation) provides the name of the feature associated with a feature access code.
- Table IBNLINES (IBN Line Assignment) identifies the options assigned to a line equipment number (LEN). If line option CNDB is assigned to the

Block Calling Name/Number Delivery Blocking per Call (continued)

line, translations continues to Table RESOFC, using CNDB as a key into the table. If line option CNDB is not assigned, translations continues to Table CUSTSTN.

- Table RESOFC (Residential Line CLASS Office Data) controls the availability of individual CLASS features for an office.
- Table CUSTSTN (Customer Group Station Option) identifies the options assigned to a customer group. For this example, option CNDB is assigned to the customer group.

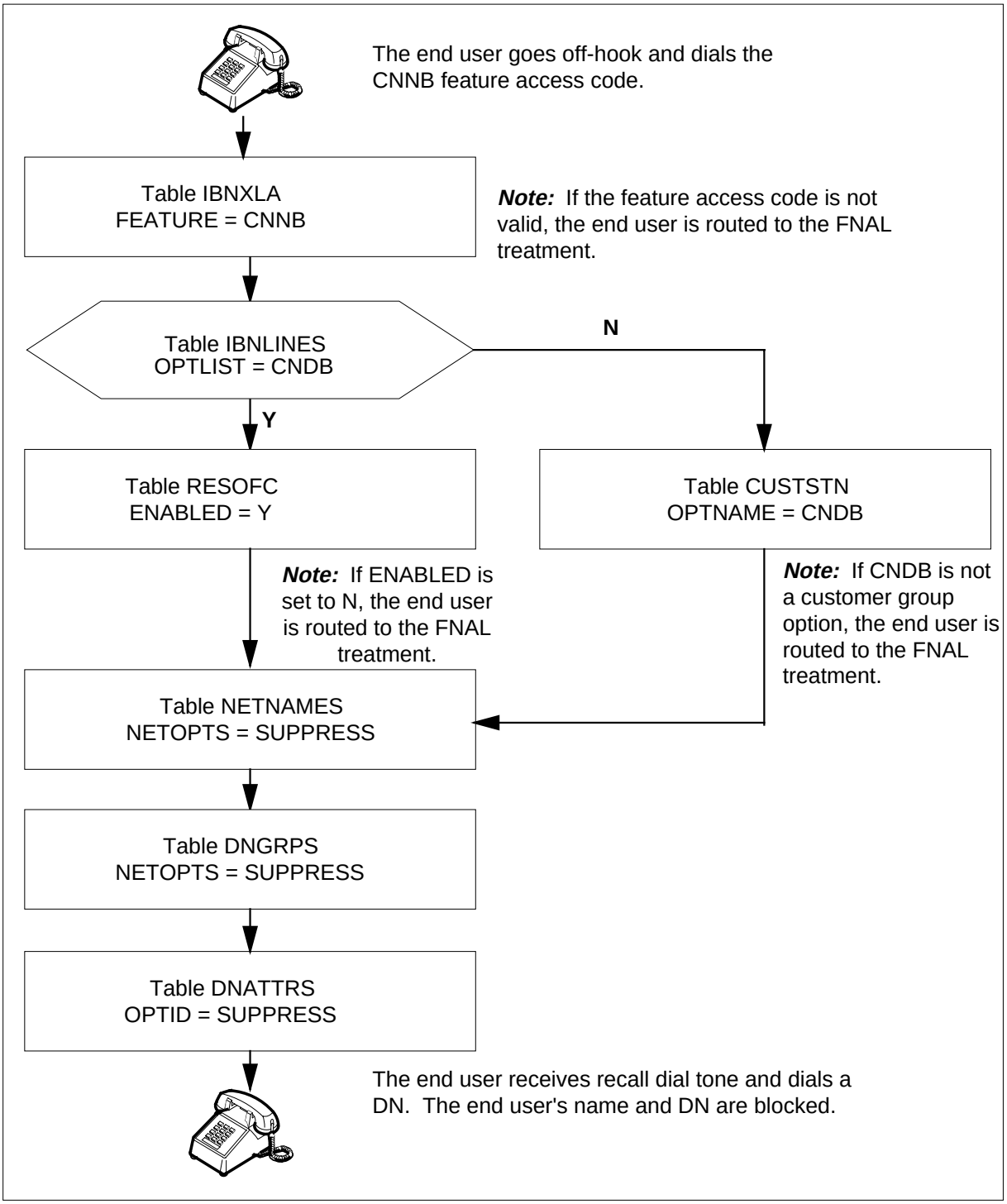
  Note: Option CNDB can be assigned to either the line or the customer group. Datafill for both line and customer group assignments is shown for information only.

- Table NETNAMES (Internal Logical Network Names) controls name and DN suppression on the network level.
- Table DNGRPS (Directory Number Groups) controls name and DN suppression for groups of DNs.
- Table DNATTRS Directory Number Attributes) controls name and DN suppression for individual lines.

The Block Calling Name/Number Delivery Blocking per Call translations process is shown in the flowchart that follows. The flowchart and data show the tables accessed when the end user activates Block Calling Name/Number Delivery Blocking per Call. For this example, neither name nor DN suppression is enabled for the line, customer group, or network.

Block Calling Name/Number Delivery Blocking per Call (continued)

Table flow for Block Calling Name/Number Delivery Blocking per Call



Block Calling Name/Number Delivery Blocking per Call (continued)

The following table lists the datafill content used in the flowchart when CNDB is assigned to a line. The CNNB feature access code is 68, and the LEN of end user is HOST 00 02 0 05.

Datafill example for Block Calling Name/Number Delivery Blocking per Call

Datafill table	Example data
IBNXLA	CXLA 749 FEAT N N CNDB
IBNLINES	HOST 00 02 0 05 0 DT STN RES 6211234 0 (CNDB) $
RESOFC	CNDB Y SUBSCR CNDB SINGLE $
CUSTSTN	No tuple for MDCGRP1 CNDB
NETNAMES	PUBLIC 0 0 SUPPRESS
DNGRPS	613 621 1000 1999 (PUBLIC $) $
DNATTRS	613 621 1234 (PUBLIC (SUPPRESS) $

The following table lists the datafill content used in the flowchart when CNDB is assigned to a customer group. The CNNB feature access code is 68, the LEN of end user is HOST 00 02 0 05, and the end user's customer group is MDCGRP1.

Datafill example for Block Calling Name/Number Delivery Blocking per Call

Datafill table	Example data
IBNXLA	CXLA 749 FEAT N N CNDB
IBNLINES	HOST 00 02 0 05 0 DT STN RES 6211234 0 $
RESOFC	CNDB Y SUBSCR CNDB SINGLE $
CUSTSTN	MDCGRP1 CNDB CNDB
NETNAMES	PUBLIC 0 0 SUPPRESS
DNGRPS	613 621 1000 1999 (PUBLIC $) $
DNATTRS	613 621 1234 (PUBLIC (SUPPRESS) $

Block Calling Name/Number Delivery Blocking per Call (continued)

Limitations and restrictions

The following limitations and restrictions apply to Block Calling Name/Number Delivery Blocking per Call :

- Block Calling Name/Number Delivery Blocking per Call cannot be used by attendant consoles. An attendant cannot block display of his or her name or DN.
- Line option CNDB cannot be assigned to an MBS or M5000 series Meridian business set.
- Line option CNDB can only be assigned to 1FR, 1MR, RES, and IBN lines.
- CNDB, CNB, and CNNB translations are assigned on a customer group basis.
- When common channel signaling 7 (CCS7) or primary rate interface (PRI) trunks are used for interoffice calls, the DN is transmitted to the terminating office with the right suppression value. When the name is suppressed for an interoffice call, the name is not transmitted to the terminating office.
- In offices with CLASS, Table RESOFC datafill controls the CNDB features, which creates customer group option CNDB in Table CUSTSTN. Any line in a customer group that has this option can use the display control features that can be activated independently of field ENABLED in Table RESOFC.
  - Field ENABLED in Table RESOFC controls access to CNDB features. When field ENABLED is set to N, no display control feature activation is allowed in the office, even if the line has option CNDB.
  - Field ANNCS in Table RESOFC controls the announcement made to the end user whenever CNDB features are activated.

Interactions

The following paragraphs describe the interactions between Block Calling Name/Number Delivery Blocking per Call and other functionalities.

Automatic Recall

Block Calling Name/Number Delivery Blocking per Call must be activated before Automatic Recall.

Call Forwarding

Block Calling Name/Number Delivery Blocking per Call cannot be activated while Call Forwarding (CFW) is active.

Block Calling Name/Number Delivery Blocking per Call (continued)

Call Park

Block Calling Name/Number Delivery Blocking per Call stays in effect during Call Park recall or when the calls are unparked.

Call Pickup

The end user cannot activate Block Calling Name/Number Delivery Blocking per Call after picking up a call.

Three-Way Calling

The end user can activate Block Calling Name/Number Delivery Blocking per Call before adding a second party to the conference circuit.

Last Number Redial

Block Calling Name/Number Delivery Blocking per Call cannot be activated using the Last Number Redial (LNR) feature because LNR cannot store CNDB, CNB, or CNNB feature access codes.

Multiple Appearance Directory Number

Multiple Appearance Directory Number (MADN) group members (primary or secondary) can activate Block Calling Name/Number Delivery Blocking per Call. When a MADN group member activates this feature, the DN and the group or member name are suppressed.

Ring Again

Block Calling Name/Number Delivery Blocking per Call affects a Ring Again (RAG) call the same way it affects a normal call. After the end user activates a display control feature, gets a busy signal, and activates RAG, the end user is notified when the terminating party is available. After making a connection, the display control function operates normally.

Speed Calling

Block Calling Name/Number Delivery Blocking per Call is functionally compatible with Speed Calling provided that the speed calling cell number is dialed after activating the feature.

Activation/deactivation by the end user

Block Calling Name/Number Delivery Blocking per Call requires no activation or deactivation by the end user.

Billing

Block Calling Name/Number Delivery Blocking per Call does not affect billing.

Block Calling Name/Number Delivery Blocking per Call (continued)

Station Message Detail Recording

Block Calling Name/Number Delivery Blocking per Call does not affect Station Message Detail Recording.

Datafilling office parameters

Block Calling Name/Number Delivery Blocking per Call does not affect Datafilling office parameters.

Datafill squence

The following table lists the tables that require datafill to implement Block Calling Name/Number Delivery Blocking per Call. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Block Calling Name/Number Delivery Blocking per Call

Table	Purpose of table
IBNXLA	IBN Translation. This table contains the data for the digit translations of calls from an MDC station, attendant console, incoming trunk group, or incoming side of a two-way MDC trunk group.
IBNLINES (Note)	IBN Line Assignment. This table contains the line assignments for data channel links for the Bulk Calling Line Identification (BCLI) feature under the format name of BL.
RESOFC	Residential Line CLASS Office Data. This table controls the availability of individual CLASS features for an office.
CUSTSTN	Customer Group Station Option. This table identifies the options assigned to a customer group.
NETNAMES	Internal Logical Network Names. This table associates logical network names with external global network identifiers.
DNGRPS	Directory Number Groups. This table assigns station attributes to DN groups.
DNATTRS	Directory Number Attributes. This table contains DN attributes for specific DNs and stores attributes for individual end user stations for up to two networkds.
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.	

Datafilling table IBNXLA

Table IBNXLA (IBN Translation) contains the data for the digit translations of calls from an MDC station, attendant console, incoming trunk group, or incoming side of a two-way MDC trunk group.

Block Calling Name/Number Delivery Blocking per Call (continued)

Datafill in Table IBNXLA defines the feature access codes that correspond to Block Calling Name/Number Delivery Blocking per Call. Feature access codes CNNB, CNDB, and CNB are added to Table IBNXLA.

The CNNB feature access code takes the following form:

- *XX or 11XX for dual-tone multifrequency (DTMF) lines
- 11XX for dial pulse (DP) lines

The XX part of the feature access code can be changed on an individual office basis. Recommended CNNB feature access codes for DTMF and DP lines are *68 and 1168, respectively.

> ***Note:*** Any end user with the CNDB line or customer group option automatically has full access to the CNNB features. CNNB need not be enabled in Table RESOFC, since CNNB is automatically available to all CNDB end users. In addition, CNNB uses the announcements provided by CNDB and does not require additional datafill for announcements.

Three feature access codes have been added to Table IBNXLA to control name and number blocking. These feature access codes are CNDB, CNB, and CNNB. A separate tuple is needed for each feature.

The following table shows the datafill specific to Block Calling Name/Number Delivery Blocking per Call for table IBNXLA. Only those fields that apply directly to Block Calling Name/Number Delivery Blocking per Call 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		see subfields	Key. This field consists of subfields XLANAME and DGLIDX.
	XLANAME	alphanumeric (1 - 8 characters)	Translator Name. This subfield specifies the translator name. Enter the 1- to 8-character name assigned to the translator.

Block Calling Name/Number Delivery Blocking per Call (continued)

Datafilling table IBNXLA (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	DGLIDX	vector of up to 18 digits	Digilator Index. This subfield specifies the digits assigned as the general network access code. Enter up to 18 digits that are to be used as a feature access code for CNDB, CNB, or CNNB.
RESULT		see subfields	Result. This field consists of subfields TRSEL and FEATURE.
	TRSEL	FEAT	Translator Selector. This subfield specifies the translator selector. Enter FEAT.
	FEATURE	CNDB, CNB, CNNB	Feature. This subfield specifies the name of the feature. Enter CNDB, CNB, or CNNB.

Datafill example for table IBNXLA

The following example shows sample datafill for table IBNXLA for CNDB. In the example, digits 749 are specified as the CNDB feature access code. The translator name is CXLA.

MAP display example for table IBNXLA

```
KEY                                    RESULT
_____________________________________________________________________
CXLA          749          FEAT     N    N          CNDB
```

Datafilling table RESOFC

Table RESOFC (Residential Line CLASS Office Data) controls the availability of individual CLASS features for an office. A CLASS feature can be enabled or disabled for the whole office. If a feature is disabled for an office, no CLASS line within the office can use the feature even if it is assigned to that line.

The following table shows the datafill specific to Block Calling Name/Number Delivery Blocking per Call for table RESOFC. Only those fields that apply directly to Block Calling Name/Number Delivery Blocking per Call are

Block Calling Name/Number Delivery Blocking per Call (continued)

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

Datafilling table RESOFC

Field	Subfield or refinement	Entry	Explanation and action
ENABLED		Y or N	Enabled. This field specifies whether the feature is enabled or disabled in the office. Enter Y or N.

Datafill example for table RESOFC

The following example shows sample datafill for table RESOFC.

MAP display example for table RESOFC

```
RESOFC
                                        FEATDATA
                FNALANN
_____________________________________________________________
CNDB        Y   SUBSCR
                                    CNDB SINGLE $
```

Datafilling table CUSTSTN

Table CUSTSTN (Customer Group Station Option) identifies the options assigned to a customer group. Block Calling Name/Number Delivery Blocking per Call adds customer group option CNDB to the option list of Table CUSTSTN. Any line in a customer group with these name and number control features can activate them, but no CNDB announcement is provided to lines without the CNDB line option. Any line in a customer group that has customer group option CNDB overrides the Table RESOFC datafill for CNDB features.

When CLASS is present in the load, any line with the CNDB, CNB, or CNNB line option can activate the features. Because Table RESOFC datafill controls feature activation in this case, the CNDB announcement is provided to end users with line option CNDB.

The end user can have both CNDB line and CNDB customer group options. In this case, line option CNDB supersedes the CNDB customer group option, and Table RESOFC datafill controls feature activation.

The following table shows the datafill specific to Block Calling Name/Number Delivery Blocking per Call for table CUSTSTN. Only those fields that apply directly to Block Calling Name/Number Delivery Blocking per Call are

Block Calling Name/Number Delivery Blocking per Call (continued)

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		alphanumeric (1 0 16 characters)	Customer Group Name. This field specifies the customer group name. Enter the 1- to 16-character customer group name.
OPTNAME		CNDB	Option Name. This field specifies the option name. Enter CNDB.
OPTION		see subfield	Option. This field consists of subfield OPTION.
	OPTION	CNDB	Option. This subfield specifies the option. Enter CNDB.

Datafill example for table CUSTSTN

The following example shows sample datafill for table CUSTSTN. This example shows how the CNDB feature is assigned to customer group MDCGRP1 in Table CUSTSTN.

MAP display example for table CUSTSTN

```
CUSTSTN
CUSTNAME            OPTNAME         OPTION
_____________________________________________________
MDCGRP1         CNDB                CNDB
```

Datafilling table NETNAMES

Table NETNAMES (Internal Logical Network Names) associates logical network names with external global network identifiers. These names are used in Tables DNATTRS and DNGRPS for storing DN attributes corresponding to the network. Table NETNAMES is expanded to allow a list of network options to be associated with a logical network. All DNs assigned in an office can be suppressed through option SUPPRESS in Table NETNAMES.

The following table shows the datafill specific to Block Calling Name/Number Delivery Blocking per Call for table NETNAMES. Only those fields that apply directly to Block Calling Name/Number Delivery Blocking per Call are

Block Calling Name/Number Delivery Blocking per Call (continued)

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

Datafilling table NETNAMES

Field	Subfield or refinement	Entry	Explanation and action
NETNAME		alphanumeric (1 - 32 characters)	Logical Network Name: This field specifies the network name used to access Tables DNATTRS and DNGRPS. Enter a unique 1- to 32-character name for the logical network.
EXTNETID		0 - 32 600	External Network Identifier: This field specifies a unique number that is used externally to identify logical networks. Enter a value from 0 to 32 600.
NETDIGS		0 - 10	Network Digits: This field specifies the number of digits in the logical network. The value in this field is used to extract the correct number of digits from the stored DN. Enter a value from 0 to 10.
NETOPTS		SUPPRESS	Network Options: This field specifies the options supported on a logical network. Enter SUPPRESS.

Datafill example for table NETNAMES

The following example shows sample datafill for table NETNAMES. This example shows option SUPPRESS associated with the PUBLIC network.

MAP display example for table NETNAMES

```
NETNAMES
        NETNAME   EXTNETID   NETDIGS                NETOPTS
_____________________________________________________________
    PUBLIC         0         0                  SUPPRESS
```

Datafilling table DNGRPS

Table DNGRPS (Directory Number Groups) assigns station attributes to DN groups. A set of attributes can be assigned for each logical network to which a DN group belongs. A group of DNs can belong to a maximum of two logical networks. The logical networks must also be datafilled in Table NETNAMES. Option SUPPRESS indicates that the display of the address can be suppressed.

The following table shows the datafill specific to Block Calling Name/Number Delivery Blocking per Call for table DNGRPS. Only those fields that apply

Block Calling Name/Number Delivery Blocking per Call (continued)

directly to Block Calling Name/Number Delivery Blocking per Call are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table DNGRPS

Field	Subfield or refinement	Entry	Explanation and action
NETOPTS		see subfields	Network Options:This field consists of subfields NETNAME and OPTIONS.
	NETNAME	alphanumeric (1 - 32 characters)	Logical Network Name: This subfield specifies the logical network name. Enter the name of the logical network, as datafilled in Table NETNAMES.
	OPTIONS	see subfield	Option List: This subfield consists of subfield OPTION.
	OPTION	SUPPRESS	Network Option: This subfield specifies the options available for the network. Enter SUPPRESS.

Datafill example for table DNGRPS

The following example shows sample datafill for table DNGRPS.

MAP display example for table DNGRPS

```
DNGRPS

  SNPA  OFC  FROMDIGS  TODIGS
NETOPTS
_____________________________________________________________
 613   621  1000      1999             (PUBLIC
(SUPPRESS) $
```

Datafilling table DNATTRS

Table DNATTRS (Directory Number Attributes) contains DN attributes for specific DNs and stores attributes for individual end user stations for up to two networks. A default suppression status can be assigned to individual lines on a logical network basis in Table DNATTRS through option SUPPRESS.

Block Calling Name/Number Delivery Blocking per Call (continued)

Once a name has been assigned to a DN, the name is stored in Table DNATTRS with a network name of PUBLIC. If a line is taken out of service, the name for that DN is removed from Table DNATTRS.

The following table shows the datafill specific to Block Calling Name/Number Delivery Blocking per Call for table DNATTRS. Only those fields that apply directly to Block Calling Name/Number Delivery Blocking per Call are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table DNATTRS

Field	Subfield or refinement	Entry	Explanation and action
DATA		see subfields	Network Attributes. This field consists of several subfields. Only subfields NETNAME and NETOPTS pertain to this feature.
	NETNAME	alphanumeric (up to 32 characters)	Logical Network Name: This subfield specifies the name of the network. Enter an alphanumeric name of up to 32 characters.
	NETOPTS	OPTID	Network Options List. This subfield consists of several subfields. Only subfield OPTID pertains to this feature.
	OPTID	SUPPRESS	Network Option Identifier. This subfield specifies the options for the network. Enter SUPPRESS.

Datafill example for Table DNATTRS

The following example shows sample datafill for Table DNATTRS. In this example, option SUPPRESS is associated with the network name PUBLIC.

MAP display example for table DNATTRS

```
 KEY                                                        DATA
------------------------------------------------------------
 613 621 1234   (PUBLIC   ( SUPPRESS ) $
```

Block Calling Name/Number Delivery Blocking per Call (continued)

Translation verification tools

The following example shows the output from TRAVER (translation verification) when it is used to verify Block Calling Name/Number Delivery Blocking per Call .

TRAVER output example for Block Calling Name/Number Delivery Blocking per Call

```
>TRAVER L 6211233 'B68' B
TABLE IBNLINES
   HOST 00 0 09 07 0 DP STN RES 6211233 0 $
TABLE LINEATTR
   0 1FR NONE NT FR01 0 613 P621 L613 TSPS 10 NIL NILSFC
LATA1 0 NIL NIL 00 Y RESGRP 0 2
   LCABILL OFF – BILLING DONE ON BASIS OF CALLTYPE
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE NCOS
RESGRP 2 0 0 RNCOS2 ( XLAS RXCMN2 NXLA RES ) $
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT,
AND DIGCOL
RESGRP NXLA RESXLA RXCFN 0 RES
TABLE DIGCOL
   RES SPECIFIED: RES DIGIT COLLECTION
NCOS FEAT XLA NAME IS NIL. GO TO NEXT XLA NAME.
TABLE IBNXLA: XLANAME RXCFN
   RXCFN 68 FEAT N N N (CNNB)

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

SERVORD

Complete the datafill for the required Table IBNLINES with the service order utility, SERVORD. Table IBNLINES contains the line assignments for data channel links for the Bulk Calling Line Identification (BCLI) feature under the format name of BL.

Display control features can be added or removed through SERVORD using the SERVORD command ADO (add option) or DEO (delete option).

SERVORD limitations and restrictions

Block Calling Name/Number Delivery Blocking per Call has no SERVORD limitations and restrictions.

Block Calling Name/Number Delivery Blocking per Call (end)

SERVORD prompts

The following table shows the SERVORD prompts used to assign Block Calling Name/Number Delivery Blocking per Call to a line.

SERVORD prompts for Block Calling Name/Number Delivery Blocking per Call

Prompt	Valid input	Explanation
DN_OR_LEN	7-digit DN or LEN	Specifies the 7-digit DN or LEN of the line to be changed or displayed. Enter the DN or LEN.
OPTION	CNDB, CNB, CNNB, SUPPRESS	Indicates the name of the option. Enter CNDB, CNB, CNNB, or SUPPRESS.

SERVORD example for adding Block Calling Name/Number Delivery Blocking per Call

The following SERVORD example shows how Block Calling Name/Number Delivery Blocking per Call is added to DN 9420693 using the ADO command.

SERVORD example for Block Calling Name/Number Delivery Blocking per Call in prompt mode

```
SO:
> ADO
SONUMBER: NOW 92 1 2 AM
>
DN_OR_LEN:
> 9420693
OPTION:
> CNDB
OPTION:
>$
```

SERVORD example for Block Calling Name/Number Delivery Blocking per Call in no-prompt mode

```
> ADO $ 9420693 CNDB $
```

Calling Name/Number Delivery Blocking (CNNB)

Ordering codes

Functional group ordering code: MDC00033

Functionality ordering code: not applicable

Release applicability

NA009 and up

Prerequisites

To operate, Calling Name/Number Delivery Blocking (CNNB) has the following prerequisites:

- BAS Generic, BAS00003
- MDC Minimum, MDC00001
- MDC Standard, MDC00003
- RES Service Enablers, RES00006

Network configuration

Common Channel Signaling No. 7 (CCS7) connectivity is required for network (interoffice) configuration of Calling Name/Number Delivery Blocking. The following prerequisites are required for CCS7 connectivity:

- Base ISUP, ISP70001
- TEL CCS7 Base, TEL00008

Description

The Calling Name/Number Delivery Blocking (CNNB) feature enables subscribers to block the display of their name and directory number (DN) information on the set of the called party on an individual call basis.

Like CNND, CNNB blocks both name and number regardless of the group or line suppression status. CNNB does not toggle the suppression status.

The CNNB feature is automatically available for use by subscribers who have line option CNDB assigned to their lines or who are members of a customer group that has group option CNDB assigned.

Interoffice CNNB

For interoffice calls, (CCS7 provides the protocol for transmitting the Custom Local Area Signaling Services (CLASS) display information and its current suppression status from the originating switch to the terminating switch.

Calling Name/Number Delivery Blocking (CNNB) (continued)

Feature processing

After the subscriber dials the CNNB access code, the following steps are taken:

- If the subscriber has line option CNDB, the system checks to ensure that CNDB is enabled for the office and that line option CNDB is assigned to the subscriber line. If the checks fail, the call is given feature not allowed (FNAL) treatment.
- If the software resources required to activate CNNB are unavailable, the call is given no software resources (NOSR) treatment.
- When CNNB has been successfully invoked, the subscriber is given one of the following:
  - — an announcement confirming that CNNB has been invoked (if such an announcement has been supplied by the operating company) followed by recall dial tone
  - — recall dial tone only (if no announcement has been provided by the operating company)

Note 1: If the subscriber activates CNNB and then dials a partial DN, the call is given partial dial (PDIL) treatment.

Note 2: Except in the case of ACB activation, CNNB has no effect on subsequent calls.

Note 3: The CNNB feature uses the CNDB confirmation announcements. The CNDB confirmation announcements are standard announcements. Existing announcements may be used for CNDB confirmation. However, the operating company may provide new announcements by recording new messages with the DRAMREC utility.

If the CNDB confirmation announcements are not datafilled, the subscriber who successfully activates the CNNB feature is given recall dial tone. The CNDB subscriber then dials the DN he or she wishes to reach, or the activation code of other features such as Automatic Call Back (ACB) or Automatic Recall (AR). CNDB interactions with CNNB are fully described in “Calling Number Delivery Blocking (CNDB)."

Note: Any subscriber who does not have line option CNDB but is a member of a customer group with the customer group option CNDB can activate the CNNB feature. However, the CNDB confirmation announcement that is used by the CNNB feature is only provided to subscribers with line option CNDB.

Calling Name/Number Delivery Blocking (CNNB) (continued)

Operation

Calling Name/Number Delivery Blocking (CNNB) does not contain operating procedures.

Translations table flow

The Calling Name/Number Delivery Blocking (CNNB) translations tables are described in the following list:

- Table IBNXLA provides the name of the feature associated with an activation code.
- Table IBNLINES identifies the options assigned to a line equipment number (LEN). If CNDB is assigned to the line, translations continues to table RESOFC, using CNDB as a key into the table. If CNDB is not assigned, translations continues to table CUSTSTN.
- Table RESOFC controls the availability of individual CLASS features for an office. For this example, CNDB is enabled.
- Table CUSTSTN identifies the options assigned to a customer group. For this example, CNDB is assigned to the customer group.

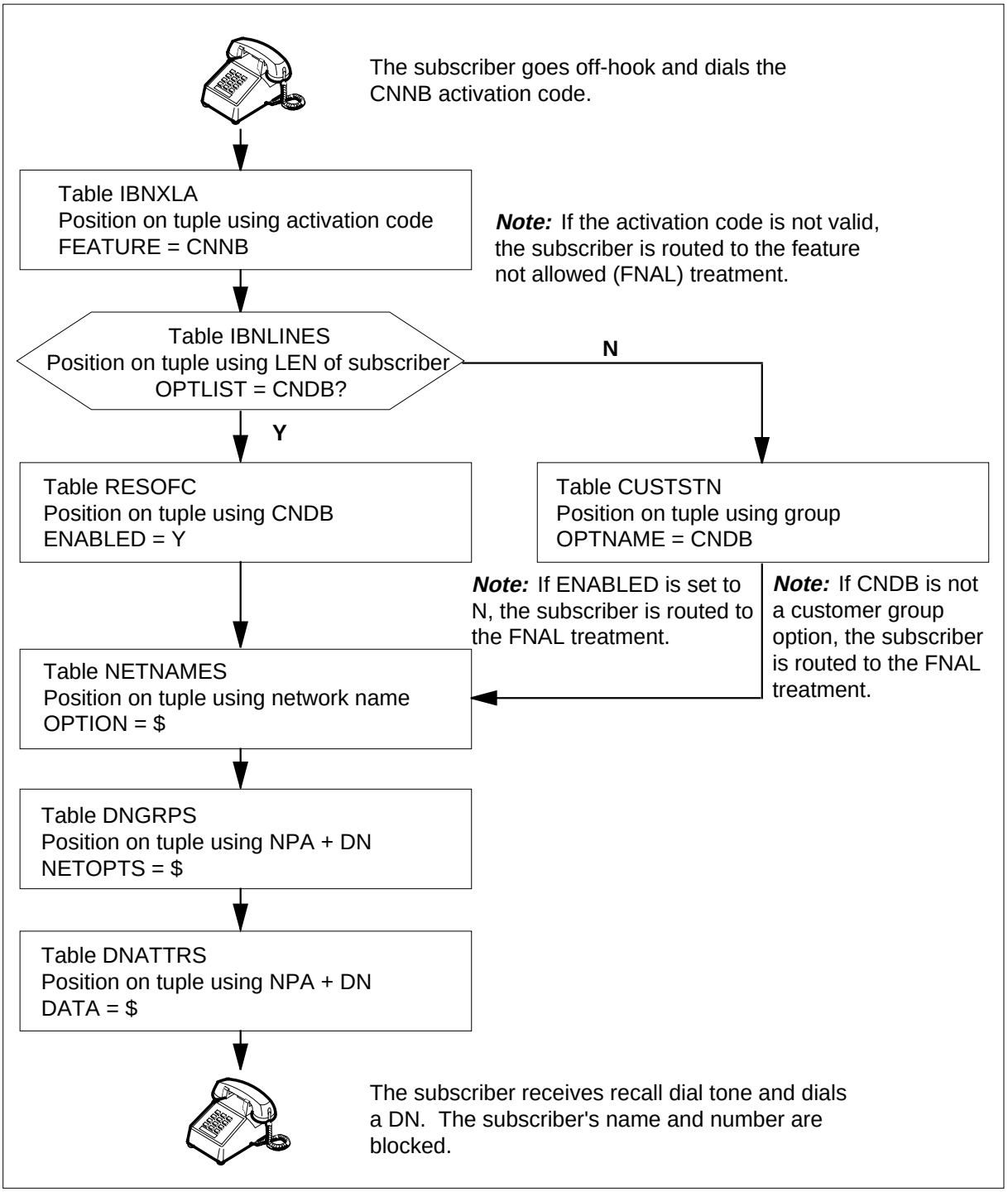
  Note: CNDB can be assigned to either the line or the customer group. Datafill for both line and customer group assignments is shown for information only.

- Table NETNAMES controls name and DN suppression on the network level. For this example, no suppression is assigned.
- Table DNGRPS controls name and DN suppression for groups of DNs. For this example, no suppression is assigned.
- Table DNATTRS controls name and DN suppression for individual lines. For this example, no suppression is assigned.

The Calling Name/Number Delivery Blocking (CNNB) translation process is shown in the flowchart that follows. For this example, neither name nor DN suppression is enabled for the line, group, or network.

Calling Name/Number Delivery Blocking (CNNB) (continued)

Table flow for Calling Name/Number Delivery Blocking (CNNB)



Calling Name/Number Delivery Blocking (CNNB) (continued)

The following table lists the datafill content used in the flowchart when CNDB is assigned to a line. The CNNB activation code is 68 and the LEN of subscriber is HOST 00 02 0 05.

Datafill example for Calling Name/Number Delivery Blocking (CNNB)

Datafill table	Example data
IBNXLA	RXCFN 68 FEAT N N N CNNB
IBNLINES	HOST 00 02 0 05 0 DT STN RES 6211234 0 (CNDB) $
RESOFC	CNDB Y SUBSCR CNDB $ $
CUSTSTN	No tuple for RESGRP CNDB
NETNAMES	PUBLIC 0 0 $
DNGRPS	613 621 1000 1999 (PUBLIC $) $
DNATTRS	613 621 1234 (PUBLIC $) $ $

The following table lists the datafill content used in the flowchart when CNDB is assigned to a customer group. The CNNB activation code is 68, the LEN of subscriber is HOST 00 02 0 05, and the Subscriber's customer group is RESGRP.

Datafill table	Example data
IBNXLA	RXCFN 68 FEAT N N N CNNB
IBNLINES	HOST 00 02 0 05 0 DT STN RES 6211234 0 $
RESOFC	CNDB Y SUBSCR CNDB $ $
CUSTSTN	RESGRP CNDB CNDB
NETNAMES	PUBLIC 0 0 $
DNGRPS	613 621 1000 1999 (PUBLIC $) $
DNATTRS	613 621 1234 (PUBLIC $) $ $

Calling Name/Number Delivery Blocking (CNNB) (continued)

Limitations and restrictions

The following limitations and restrictions apply to Calling Name/Number Delivery Blocking (CNNB):

- Features that are not compatible with CNNB are as follows:
  - — Denied Origination (DOR)
  - — Automatic Line (AUL)
- The CNNB feature cannot be used by attendant consoles.
- Except in the case of ACB, the CNNB feature does not affect subsequent calls.
- CNNB translations must be assigned on a customer group basis.
- During interoffice calls when the calling party's name is suppressed, name display information is not transmitted to the terminating office or to the subscriber set of the called party.

Interactions

Feature interactions for CNNB are described in “Feature interactions" in “Calling Number Delivery Blocking (CNDB)."

Activation/deactivation by the end user

The CNNB feature automatically becomes available to a subscriber as soon as the line or group option CNDB is assigned to the subscriber line.

The subscriber activates the CNNB feature for a call by

- going off-hook
- obtaining dial tone
- dialing the CNNB access code
- receiving special dial tone or treatment
- dialing the DN of the called party

The CNDB subscriber must dial the CNNB access code before each call in order to block the display of DN information on the subscriber set of the called party.

The access code for the CNNB feature has the following form:

- 11XX for dial pulse (DP) lines
- 11XX or *XX for dual-tone multifrequency (DTMF) lines

Calling Name/Number Delivery Blocking (CNNB) (continued)

The recommended access codes for CNNB are as follows:

- 1168 for DP lines
- 1168 or *68 for DTMF lines

Billing

Refer to “Billing" in “Calling Number Delivery Blocking (CNDB)."

Station Message Detail Recording

Calling Name/Number Delivery Blocking (CNNB) does not affect Station Message Detail Recording.

Datafilling office parameters

Calling Name/Number Delivery Blocking (CNNB) does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement Calling Name/Number Delivery Blocking (CNNB). The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Calling Name/Number Delivery Blocking (CNNB)

Table	Purpose of table
IBNXLA	IBN Translations. This table contains the data for the digit translations of calls from an MDC station, attendant console, incoming trunk group, or incoming side of a two-way MDC trunk group.

Datafilling table IBNXLA

Table IBNXLA (IBN Translations) contains the data for the digit translations of calls from an MDC station, attendant console, incoming trunk group, or incoming side of a two-way MDC trunk group.

Datafill in table IBNXLA defines the access code that corresponds to the CNNB feature. Option CNNB and the CNNB access code are added to table IBNXLA.

The CNNB access code takes the following form:

- *XX or 11XX for DTMF lines
- 11XX for DP lines

Calling Name/Number Delivery Blocking (CNNB) (continued)

The XX part of the access code can be changed on an individual office basis. Recommended CNNB access codes for DTMF and DP lines are *68 and 1168, respectively.

Note 1: Any subscriber with the line or customer group option CNDB automatically has full access to the CNNB features. The CNNB feature need not be enabled in table RESOFC, since CNNB is automatically available to all CNDB subscribers. In addition, the CNNB feature uses the announcements provided by the CNDB feature and does not require any additional datafill for announcements.

Note 2: The recommended Subscriber Services datafill should be used. This prevents speed call long cells overlapping with the CNNB access code.

The following table shows the datafill specific to Calling Name/Number Delivery Blocking (CNNB) for table IBNXLA. Only those fields that apply directly to Calling Name/Number Delivery Blocking (CNNB) 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		see subfields	KEY. This field consists of the subfields XLANAME and DGLIDX. These subfields are described below and must be entered in succession.
	XLANAME	RXCFN	Translator name. This subfield specifies the 1- to 8-character name assigned to the translator. Enter RXCFN.
	DGLIDX	see subfields	Digilator index. This subfield specifies the digit or digits assigned to the index. Enter 68.
RESULT		see subfields	Result. This field consists of the subfields TRSEL, ACR, SMDR, VCDR, and FEATURE. These subfields are described below.
	TRSEL	FEAT	Translation selector. This subfield specifies the translation selector. Enter FEAT.
	ACR	N	Account entry code. this subfield specifies whether or not an account entry code is required. Enter N.

Calling Name/Number Delivery Blocking (CNNB) (continued)

Datafilling table IBNXLA (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	SMDR	N	Station message detail recording. This subfield specifies whether or not SMDR is required. Enter N.
	VCDR	Y or N	Variable call detail record. This subfield specifies whether or not VCDR is required. Enter Y or N.
	FEATURE	CNNB	Feature. This subfield specifies the name of the feature to which the code is assigned. Enter CNNB.

Datafill example for table IBNXLA

The following example shows sample datafill for table IBNXLA.

MAP display example for table IBNXLA

```
        KEY                                  RESULT
_____________________________________________________________

RXCFN   68        FEAT       N     N     N    CNNB
```

Translation verification tools

The following example shows the output from TRAVER when it is used to verify Calling Name/Number Delivery Blocking (CNNB).

Calling Name/Number Delivery Blocking (CNNB) (end)

TRAVER output example for Calling Name/Number Delivery Blocking (CNNB)

```
>TRAVER L 6211233 'B68' B
TABLE IBNLINES
   HOST 00 0 09 07 0 DP STN RES 6211233 0 $
TABLE LINEATTR
   0 1FR NONE NT FR01 0 613 P621 L613 TSPS 10 NIL NILSFC
LATA1 0 NIL NIL 00 Y RESGRP 0 2
   LCABILL OFF – BILLING DONE ON BASIS OF CALLTYPE
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE NCOS
RESGRP 2 0 0 RNCOS2 ( XLAS RXCMN2 NXLA RES ) $
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT,
AND DIGCOL
RESGRP NXLA RESXLA RXCFN 0 RES
TABLE DIGCOL
   RES SPECIFIED: RES DIGIT COLLECTION
NCOS FEAT XLA NAME IS NIL.  GO TO NEXT XLA NAME.
TABLE IBNXLA: XLANAME RXCFN
   RXCFN 68 FEAT N N N (CNNB)

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

SERVORD

Refer to “Service orders" in “Calling Number Delivery Blocking (CNDB)" for information on service orders.

8 Datafilling MDC Per Line Feature Control

The following chapter describes the MDC Per Line Feature Control, MDC00044, functionality.

Network Feature Access Restriction

Ordering codes

Functional group ordering code: MDC00044

Functionality ordering code: not applicable

Release applicability

BCS35 and up

Prerequisites

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

Description

Network Feature Access Restriction enables end users to restrict certain MDC network display features, Name Display (NAMEDSP), Reason Display (REASDSP), and Calling Line Identification Display (CLID), to a group of lines in a customer group. These MDC features can be limited to a specified number of lines through the Access Feature Grouping functionality. Feature groups that control these three network display features are called service groups. Refer to the Access Feature Grouping functionality description in this document for more information.

Without Network Feature Access Restriction, end users can activate or deactivate features on a customer-group basis only.

Operation

Prior to this feature, NAMEDSP, REASDSP, and CLID were assigned on a customer-group basis, which made it difficult to develop accurate tariffs to specific lines. With Network Feature Access Restriction, the end user has the additional capability of assigning these display features to groups of lines within a customer group.

The display control functionality provided by Network Feature Access Restriction is built onto the existing Access Feature Grouping capability. Two additional options, CLID and NAMEDSP, control network display features.

In addition, option SERVCTL (scope control) in table CUSTSTN (Customer Group Station Option) allows the end user to transfer the scope control for network display features from a customer-group basis to a feature-group basis. Without this option, the network display scope control remains under option

CLID datafilled in table CUSTNTWK (Customer Group Network) and applies to all end users in the customer group.

When option SERVCTL is assigned to a customer group in table CUSTSTN, the control of network display options is taken over by service or feature groups in Access Feature Grouping. Access Feature Grouping allows different groups of end users in the same customer group to be provided with different network display capabilities, depending on the capability associated with the service group to which they are assigned.

> ***Note:*** When option SERVCTL is assigned to a customer group, end users in the customer group must be assigned to a service group to have any display capability beyond nodal intragroup display capability.

Translations table flow

The Network Feature Access Restriction translations tables are described in the following list:

- Table CUSTSTN (Customer Group Station Option) is required for a switching unit with North American translations and MDC. Option SERVCTL transfers control of network display capability from the entire customer group to individual service groups.

  > ***Note 1:*** The operating company can use options NAMEDISP and REASDISP in table CUSTSTN to establish the nodal intragroup display capability for all end users in the customer group and can assign option SERVCTL to provide selected end users with additional network display capability through service groups.
  >
  > ***Note 2:*** The assignment of option CLID in table CUSTNTWK has no effect for customer groups that are assigned option SERVCTL. Option SERVCTL overrides the capability provided by CLID.

- Table FTRGDEFS (Feature Group Definitions) specifies the group characteristics of each feature group defined in an office. Service groups are datafilled with the value SVCGRP in the GRPTYPE field; feature groups have the value FTRGRP. Each service group with a scope of PRIV (private) is associated with a specific customer group and is intended only to control network display capability. Service groups with a scope of PUB (public) apply to many customer groups but control only display capabilities. Feature groups, both PRIV and PUB, control many more options.
- Table FTRGOPTS (Feature Group Options) assigns subscriber options to each feature group and service group defined in an office. Two options, CLID and NAMEDSP, are used for Network Feature Access Restriction.

Network Feature Access Restriction (continued)

These are the only options that can be assigned to service groups. REASDSP can be assigned by way of the CLID option.

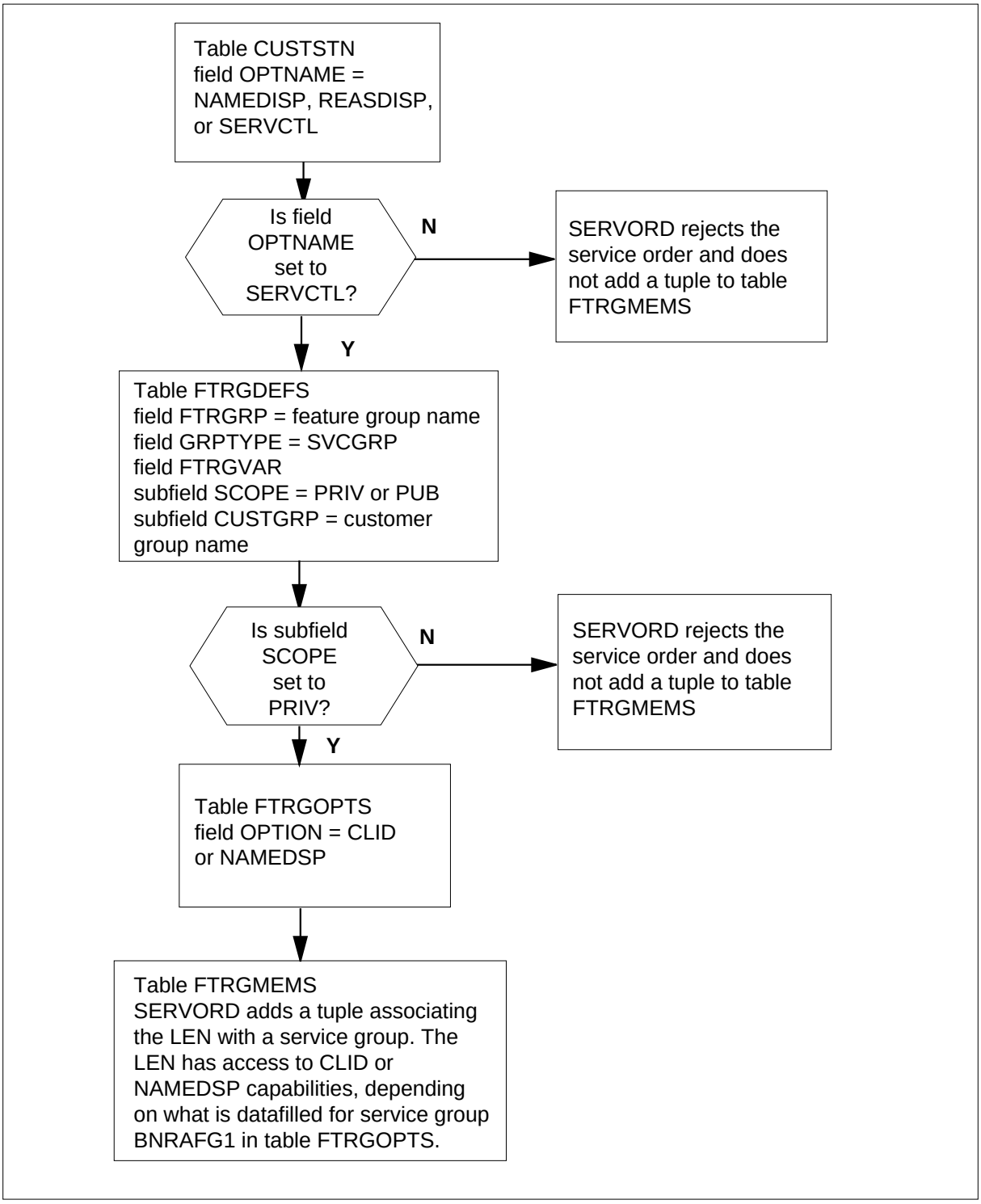
> ***Note:*** For Network Name Display, the name exchange protocol (SETUP or QUERY) must still be datafilled against option NMDSP in table NETNAMES (Network Names).

- Table FTRGMEMS (Feature Group Members) associates a line equipment number (LEN) with a feature group or service group. Table FTRGMEMS is datafilled automatically when SVCGRP is added to a line through the Service Order System (SERVORD).

The Network Feature Access Restriction translation process is shown in the flowchart that follows. The flowchart and data show how the tables are accessed when option SVCGRP is added to a line through SERVORD.

Network Feature Access Restriction (continued)

Table flow for Network Feature Access Restriction



Network Feature Access Restriction (continued)

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

Datafill example for Network Feature Access Restriction

Datafill table	Example data
CUSTSTN	BNR NAMEDISP NAMEDISPMDCGRP1 SERVCTL SERVCTLBNR REASDISP REASDISP DEFAULTSET
FTRGDEFS	BNRAFG1 SVCGRP MBS PRIV MDCGRP1 (MAXLINE 10) $
FTRGOPTS	BNRAFG1 NAMEDSP NAMEDSP ONNETBNRAFG1 CLID CLID Y OFFNET
FTRGMEMS	HOST 00 0 00 02 SVCGRP BNRAFG1 $

Limitations and restrictions

The following limitations and restrictions apply to Network Feature Access Restriction:

- Since feature groups with a scope of PRIV may include the service group options CLID and NAMEDSP, a line may have conflicting settings for these two options. For example, a line may be assigned a private feature group with CLID ONNET and a private service group with CLID OFFNET. Service group settings always override any private feature group settings. If no service group is present on a line, any private feature group settings function normally.
- The number of lines associated with a feature group or service group cannot exceed the number datafilled in subfield MAXLINES of table FTRGDEFS.
- The display scope control applies only to MDC lines. Display scope control for Residential Enhanced Services (RES) lines is not addressed by Network Feature Access Restriction. Therefore, option SERVCTL should not be datafilled in table CUSTSTN for a customer group of RES lines.
- Currently, there is no scope control for nodal REASDSP. However, with Network Feature Access Restriction, the display scope specified for CLID applies to REASDSP as well. Therefore, the display scope setting in a feature group can affect REASDSP on nodal intergroup calls, such as Call Forward Reason Display.
- There is no display scope control on CLID for attendant consoles (AC). If the calling number is available, the AC receives the number (provided the AC has the display capability). No scope checking is performed.
- Datafill in table CLLI (Common Language Location Identifier) for IBN trunks may not be preserved for multilocation business group (MBG) calls.

- Enhanced Network Reason Display is supported on IBN7 and MBG trunks only, except for Call Forward information, which is sent over ISDN user part (ISUP) POTS trunks. However, Call Forward information cannot be returned over ISUP POTS trunks. Network Reason Display can be provided to the terminating line for a Call Forward ISUP POTS call.
- Network Feature Access Restriction does not support display scope control for ACs. If an AC is or was in a call chain, the display could be inconsistent.

Interactions

The following paragraphs describe the interactions between Network Feature Access Restriction and other functionalities.

Calling Number Display, Calling Name Display

Network Feature Access Restriction supports CLASS display on MDC features Calling Number Display (CND) and Calling Name Display (CNAMD). Either the Maestro, VISTA, or Interlude extension box can be used. (Maestro supports CND only.) CLASS display does not support Feature Reason Display.

For CLASS display, the IBN lines must have the CND feature, the CNAMD feature, or both, assigned. The fact that these lines belong to a service group with option CLID, option NAMEDSP, or both assigned is not sufficient to enable their display capability.

When a number is blocked from being displayed on a Meridian business set (MBS) with CLASS display capability, the message PRIVATE NUMBER displays due to restrictions imposed under the Access Feature Grouping functionality display control. If a name is blocked from display under the same circumstances, either no display is shown or the message UNKNOWN NAME displays.

Call Pickup, Call Forwarding

Network Feature Access Restriction supports nodal Reason Display scope control for Call Pickup (CPU) and Call Forwarding (CFW).

Executive Message Waiting

Network Feature Access Restriction does not support display scope control for Executive Message Waiting (EMW).

Three-Way Calling

For nodal Three-Way Calling (3WC), the display scope setting in a service group has no impact on Reason Display. If subfield REASON in table FTRGOPTS is set to Y, the conference reason datafilled in table REASONS

Network Feature Access Restriction (continued)

(Business Set Reason Display), usually set to CONFERENCE, is always displayed, regardless of the display scope setting associated with option CLID. This restriction also applies to nodal Call Transfer.

Activation/deactivation by the end user

Network Feature Access Restriction modifies query commands QDN (query directory number), QLEN (query line equipment number), and QLT (query logical terminal) to support line option SVCGRP. Only the name of the service group is shown when query command QLEN, QDN, or QLT is executed on a line with option SVCGRP. Options associated with the service group are not displayed. Options associated with the service group, CLID and NAMEDSP, are displayed when query command QLEN, QDN, or QLT is executed on a line with option FTRGRP.

QDN command

The following figure shows an example MAP display of the QDN command. The group name displayed after line option SVCGRP is the name of the service group.

Example MAP display of the QDN command

```
CI:
>QDN 7225027
-------------------------------------------------------
DN:         7225027
TYPE: SINGLE PARTY LINE
SNPA: 613  SIG: N/A  LNATTIDX:   N/A
LINE EQUIPMENT NUMBER:   HOST 00 1 09 24
LINE CLASS CODE:   PSET (WITH DISPLAY)
KEY:  1
CUSTGRP:  COMKODAK  SUBGRP: 0  NCOS: 0  RING: Y
CARDCODE: 6X21AC  GND: N  PADGRP: PPHON  BNV: NL MNO: Y
PM NODE NUMBER    :    80
PM TERMINAL NUMBER:    313
OPTION:
SVCGRP BNRAFG1
```

QLEN command

The following figure shows an example MAP display of the QLEN command. The group name displayed after line option SVCGRP is the name of the service group.

Network Feature Access Restriction (continued)

Example MAP display of the QLEN command

```
CI:
>QLEN HOST 00 1 09 24
-------------------------------------------------------
LEN:       HOST 00 1 09 24
TYPE: SINGLE PARTY LINE
SNPA: 613
DIRECTORY NUMBER:   7225027
LINE CLASS CODE:   PSET (WITH DISPLAY)
CUSTGRP:    COMKODAK  SUBGRP: 0  NCOS: 0  RING: Y
ADDONS: NONE    EXTENSION: N
CARDCODE: 6X21AC  GND: N  PADGRP: PPHON  BNV: NL MNO: Y
PM NODE NUMBER    :    80
PM TERMINAL NUMBER:    313
OPTION:
SVCGRP BNRAFG1

   KEY DN
   1   DN 7225027

   KEY FEATURE

     NONE
```

QDT command

The following figure shows an example MAP display of the QLT command. The group name displayed after line option SVCGRP is the name of the service group.

Network Feature Access Restriction (continued)

Example MAP display of the QLT command

```
CI:
>QLT FUNC 77
-------------------------------------------------------
LTID: FUNC  77
SNPA: 613
DIRECTORY NUMBER:   7222016
DPN GROUP NO: 1
LTCLASS: BRAFS  EKTS: N  CACH: N  NONINIT: N
BEARER SERVICE RESTRICTIONS:  NOPMD
CS: Y  PS: N
VERSION: FUNCTIONAL ISSUE: 1
LEN: HOST 02 0 01 04  TEI: 2
CUSTGRP:    COMKODAK  SUBGRP: 0  NCOS: 0  RING: Y
LINE CLASS CODE:   ISDNKSET
MAXKEYS: 60
OPTION:
SVCGRP BNRISDN LNR SFC
ACOU 1 DROP XFER CTALL FC 3

   KEY DN
   1   DN    7222016

   KEY FEATURE
   1   ACOU 1
   2   AFC
   3   AFC
   4   AFC
   5   AFC
   8   FC 3
   9   XFER  CTALL
   10  DROP
   24  RLS
```

Billing

Network Feature Access Restriction does not affect billing.

Station Message Detail Recording

Network Feature Access Restriction does not affect Station Message Detail Recording.

Datafilling office parameters

Network Feature Access Restriction does not affect office parameters.

Datafill sequence

The following table lists the tables that require datafill to implement Network Feature Access Restriction. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for Network Feature Access Restriction

Table	Purpose of table
CUSTSTN	Customer Group Station Options. This table is used to establish the base nodal intragroup display capability for all end users in a customer group.
FTRGDEFS	Feature Group Definitions. This table is used to specify the group characteristics of a feature or service group.
FTRGOPTS	Feature Group Options. This table is used to assign line options to feature and service groups. Feature and service groups are associated with individual lines using table FTRGMEMS or SERVORD.
FTRGMEMS	Feature Group Members. This table is used to associate feature and service groups with individual lines. This table is used as part of the feature grouping capabilities for operating companies to package residential and business features. ***Note:*** This table is datafilled through SERVORD; therefore, no datafill procedure is provided.

Datafilling table CUSTSTN

Options NAMEDSP and REASDSP can be assigned in table CUSTSTN to establish the base nodal intragroup display capability for all end users in a customer group.

> ***Note:*** Intragroup CLID display is provided by default and therefore does not require additional datafill.

Network display capability for a customer group is controlled through option CLID in table CUSTNTWK. However, the network display scope control can be transferred to individual feature groups through the assignment of option SERVCTL in table CUSTSTN. This allows different groups of end users within the same customer group to be provided with different network display capabilities.

If option SERVCTL is datafilled, the end user must have a service group assigned to be provided with any display capability beyond nodal intragroup display. If option SERVCTL is not datafilled, the scope control for NAMEDSP, REASDSP, and CLID remains under option CLID as datafilled in table CUSTNTWK.

Network Feature Access Restriction (continued)

The following table shows the datafill specific to Network Feature Access Restriction for table CUSTSTN. Only those fields that apply directly to Network Feature Access Restriction 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		1 -to 16-character group name	Customer name. Enter the 1- to 16-character customer group name defined by the operating company.
OPTNAME		NAMEDSP, REASDISP, or SERVCTL	Option name. This field specifies the name of the option. Enter one of the following options: • Enter NAMEDSP for Name Display. • Enter REASDISP for Reason Display. • Enter SERVCTL to transfer network display scope control to a service group.
OPTION		NAMEDSP, REASDISP, or SERVCTL	Option. This field specifies the name of the option. Enter one of the following options: • Enter NAMEDSP for Name Display. • Enter REASDISP for Reason Display. • Enter SERVCTL to transfer network display scope control to a service group. ***Note:*** If OPTION is set to REASDISP, subfield REASTYPE requires datafill.
	REASTYPE	alphanumeric (1 to 16 characters)	Reason type. This subfield specifies the reason message set. Enter the name assigned to the block of data in table REASONS that contains the reason message

Datafill example for table CUSTSTN

The following example shows sample datafill for table CUSTSTN. The customer groups have the intragroup name as the base display capability.

MAP display example for table CUSTSTN

```
CUSTNAME    OPTNAME              OPTION
_____________________________________________________
BNR         NAMEDISP             NAMEDISP
MDCGRP1     SERVCTL              SERVCTL
BNR        REASDISP             REASDISP DEFAULTSET
```

Datafilling table FTRGDEFS

Table FTRGDEFS (Feature Group Definitions) is used to specify the group characteristics of feature groups and service groups. Service groups are a subset of feature groups; they control the CLID and NAMEDSP options only. Within the CLID option users can indicate the REASDISP option. Feature groups control many more line options.

Feature groups other than those associated with the RES station class can be designated as either public or private, while RES feature groups are designated public by default. Private feature groups are assigned to a single customer group, which is specified in subfield CUSTGRP in table FTRGDEFS. Public feature groups can apply to multiple customer groups.

Special group options can be assigned to individual feature groups using field OPTIONS in table FTRGDEFS. Although this field was designed to allow for a list of options to be specified, currently only two options are available: customer data change (CDC) and MAXLINE (maximum number of lines associated with a feature group). Option MAXLINE limits the number of lines associated with a feature or service group. This option is accessible only to the operating company. CDC end users can only view this table.

Public feature groups can be assigned the CDC option. This option provides non-operating company users with the capability of viewing and even modifying the feature group data associated with the customer groups they own. CDC users are given access to their feature group data through tables FTRGDEFS and FTRGOPTS, using the Partitioned Table Editor feature, BC1459.

To provide CDC users the ability to assign and modify private feature groups, the feature group must be added to table DATAOWNR (Data Owner) and associated with an owner.

Service groups

Prior to NA005, a service group was defined as any feature group specified with the scope of CUST (customer). Applicable to NA005 and up, service groups are redefined as public (used by many customer groups) or private

Network Feature Access Restriction (continued)

(used by the one customer group defined). Public service groups are not associated with a particular customer group.

Service groups can contain only two options: CLID and NAMEDSP, assignable in table FTRGOPTS. Within the CLID option users can indicate the REASDSP option. Feature groups, which can be both public and private, can contain several line options.

The following table shows the datafill specific to Network Feature Access Restriction for table FTRGDEFS. Only those fields that apply directly to Network Feature Access Restriction are shown. For a description of the other fields, refer to the data schema section of this document.

Datafilling table FTRGDEFS (Sheet 1 of 2)

Field	Subfield or refinement	Entry	Explanation and action
FTRGRP		alphanumeric (up to 16 characters)	Feature group name. Enter the feature group name defined by the operating company.
GRPTYPE		FTRGRP, SVCGRP	Group type. Enter FTRGRP for feature group or SVCGRP for service group.
FTRGVAR		see subfield	Feature group variable area. This field consists of subfield CLASS.
	CLASS	DATA, IBN, ISDN, MBS, or RES	Class of station. Enter the type of station class (or terminal class) to which the feature group can be assigned. If the entry in subfield CLASS is RES, go to field NUMLINES. If the entry in subfield CLASS is anything other than RES, datafill refinement OWNERSHIP.
	OWNERSHIP	see subfield	Feature group ownership. This subfield consists of subfield SCOPE.
	SCOPE	PRIV or PUB	Feature group scope. Enter the scope of the feature group. Enter PRIV to identify a private feature group, or PUB to identify a public feature group. If the entry in subfield SCOPE is PRIV, datafill refinement CUSTGRP.

Network Feature Access Restriction (continued)

Datafilling table FTRGDEFS (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	CUSTGRP	alphanumeric (up to 16 characters)	Customer group. Enter the customer group that owns the private feature group.
NUMLINES		0-32 767	Number of lines. This read-only field shows the number of lines that are currently assigned to the feature group. It is automatically updated as lines are added to or deleted from a feature group. For a new feature group, enter 0. Any entry outside the range indicated for this field is invalid.
OPTIONS		see subfield	Options. This field consists of subfield OPTION.
	OPTION	CDC or MAXLINE (up to 2 options)	Option list. If only one option is required, enter $ to end the tuple. Enter CDC for the customer data change option (applicable to public feature groups only). Enter MAXLINE to limit the total number of lines that can be associated with a feature group, and datafill refinement MAXLINES.
	MAXLINES	0 to 32 767	Maximum number of lines. Enter the maximum number of lines that can be associated with a feature group.

Datafill example for table FTRGDEFS

The following example shows sample datafill for table FTRGDEFS.

MAP display example for table FTRGDEFS

```
FTRGRP      GRPTYPE     FTRGVAR     NUMLINES    OPTIONS
---------------------------------------------------------
AFGPUB      FTRGRP  MBS PUB         0   CDC MAXLINE 5 $
AFGPRIV     FTRGRP  MBS PRIV    MDCGRP2     0       $
BNRAFG1     SVCGRP  MBS PUB         0       MAXLINE 7 $
BNRAFG2     SVCGRP  MBS PRIV    MDCGRP1     0       $
```

Network Feature Access Restriction (continued)

Datafilling table FTRGOPTS

Table FTRGOPTS (Feature Group Options) is used to assign line options to feature groups and service groups.

Options CLID and NAMEDSP can be assigned the following scope control types:

- INTRAGRP. A line associated with a service group containing option CLID INTRAGRP displays the CLID that is available on calls over trunking facilities that are associated with the same customer group.

  Note: The domain of the customer group, as defined in tables CUSTENG (Customer Group Engineering) and CUSTFAM (Customer Group Family), affects the manner with which intragroup capability is determined for INTRAGRP display scope.

- ONNET. A line associated with a service group containing option CLID ONNET displays the CLID that is available on calls from an agent belonging to the same logical network. The logical network is assigned to a customer group in table CUSTNTWK.

  Note: Public trunking facilities that are not associated with a specific customer group are considered to belong to the PUBLIC logical network.

- OFFNET. A line associated with a service group containing option CLID OFFNET displays the CLID that is available from any agent. This option provides the largest scope of display capability.

In addition, subfield REASON under option CLID activates REASDSP. The scope control type for REASDSP is the same as that specified for option CLID.

Options CLID and NAMEDSP are compatible with feature groups of class IBN, MBS, and ISDN.

The following table shows the datafill specific to Network Feature Access Restriction for table FTRGOPTS. Only those fields that apply directly to

Network Feature Access Restriction (continued)

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

Datafilling table FTRGOPTS

Field	Subfield or refinement	Entry	Explanation and action
FTRGRP		alphanumeric (up to 16 characters)	Feature group name. Enter the feature group name to which the option is assigned. Feature group names are defined by the operating company.
OPTION		CLID or NAMEDSP	Option. This field specifies the name of the option. Enter one or both of the following options: • Enter CLID for Calling Line Identification Display and datafill subfields REASON and CLID_OPT. • Enter NAMEDSP for Name Display and datafill subfield NAMEOPT.
OPTION		CLID or NAMEDSP	Option. Enter the other available option, if desired.
OPTVAR		see subfields	Option variable area. This field consists of several subfields. Only subfields NAMEOPT, REASON, and CLID_OPT pertain to this feature. If OPTION is set to NAMEDSP, subfield NAMEOPT requires datafill.
	NAMEOPT	ONNET, OFFNET, or INTRAGRP	Name option. This subfield specifies the scope control type. Enter ONNET, OFFNET, or INTRAGRP. If OPTION is set to CLID, subfields REASON and CLID_OPT require datafill.
	REASON	Y or N	Reason display control. This subfield specifies whether Reason Display is to be activated. Enter Y or N.
	CLID_OPT	ONNET, OFFNET, or INTRAGRP	CLID option. This subfield specifies the scope control type. Enter ONNET, OFFNET, or INTRAGRP.

Datafill example for table FTRGOPTS

The following example shows sample datafill for table FTRGOPTS.

Network Feature Access Restriction (continued)

MAP display example for table FTRGOPTS

```
FTRGRP    OPTION     OPTION                      OPTVAR
_________________________________________________________
BNRAFG1   NAMEDSP    NAMEDSP                      ONNET
BNRAFG1   CLID       CLID                         Y OFFNET
```

Translation verification tools

Network Feature Access Restriction does not use translation verification tools.

SERVORD

Network Feature Access Restriction introduces line option SVCGRP, which is used to assign a service group to a line through SERVORD. Option SVCGRP is compatible with lines having line class codes (LCC) of IBN, PSET, M2xxx (M2000 series business sets), M5xxx (M5000 series business sets), and ISDNKSET.

SERVORD limitations and restrictions

Option SVCGRP can only be used to assign a service group (GRPTYPE of SVCGRP), either PUB or PRIV. The existing option FTRGRP must still be used to assign a GRPTYPE of feature group with a scope of PUB or PRIV.

Option SVCGRP can be assigned to or deleted from a line using SERVORD commands NEW (establish service), ADO (add option), DEO (delete option), and CHF (change feature information for preexisting feature). Although the CHF command can be used to change the service group assigned to a line, attempts to use this command to assign a service group with a different scope are denied. If the existing service group has a scope of PRIV, the new service group specified in the CHF command must also be of scope PRIV.

For an MBS with more than one directory number (DN) appearance, both options FTRGRP and SVCGRP associate the specified feature group or service group with all the DN appearances on the set.

A line can be assigned both options FTRGRP and SVCGRP simultaneously.

Network Feature Access Restriction (continued)

SERVORD prompts

The following table shows the SERVORD prompts used to assign Network Feature Access Restriction to a line.

Note: Table FTRGMEMS is automatically datafilled when Network Feature Access Restriction is assigned using SERVORD.

SERVORD prompts for Network Feature Access Restriction

Prompt	Valid input	Explanation
DN_OR_LEN	7-digit DN or LEN	Specifies the 7-digit DN or LEN of the line to be changed
GRPNAME	Any service group name defined in table FTRGDEFS	Specifies the name of the service group. Enter the 1- to 16-character alphanumeric service group name.
OPTION	SVCGRP	Specifies the option associated with a service to be established, modified, or deleted. Enter SVCGRP.
OPTKEY	1 to 69	Indicates the key on an MBS to which an option is assigned

SERVORD example for adding Network Feature Access Restriction

The following SERVORD example shows how Network Feature Access Restriction is added to an existing line through option SVCGRP using the ADO command.

Network Feature Access Restriction (continued)

SERVORD example for adding Network Feature Access Restriction to an existing line through option SVCGRP in prompt mode

```
SO:
>ADO
SONUMBER:     NOW  92  8  20 AM
>
DN_OR_LEN:
> HOST 00 0 00 02
OPTKEY:
> 1
OPTION:
> SVCGRP
GRPNAME:
> BNRAFG1
OPTKEY:
> $
```

SERVORD example for adding Network Feature Access Restriction to an existing line through option SVCGRP in no-prompt mode

```
> ADO $ HOST 00 0 00 02 1 SVCGRP BNRAFG1 $
```

SERVORD example for deleting Network Feature Access Restriction

The following SERVORD example shows how line option SVCGRP is deleted from a line using the DEO command. In this example, the service group BNRAFG1 is removed from DN 5551212 as a result of this command.

SERVORD example for deleting BNRAFG1 from an existing line through option SVCGRP in prompt mode

```
SO:
>DEO
SONUMBER:     NOW  92  8  20 AM
>
DN_OR_LEN:
> 5551212
OPTKEY:
> 1
OPTION:
> SVCGRP
OPTKEY:
> $
```

Network Feature Access Restriction (end)

SERVORD example for deleting BNRAFG1 from an existing line through option SVCGRP in no-prompt mode

```
> DEO $ 5551212 1 SVCGRP $
```

9 Datafilling MDC Call Forward Indication

The following chapter describes the MDC Call Forward Indication, MDC00068, functionality.

Call Forward Indication

Ordering codes

Functional group ordering code: MDC00068

Functionality ordering code: not applicable

Release applicability

MMP14 and up

NA012 introduced Call Forward Indication.

Requirements

Call Forward Indication has no functional group requirements.

Description

This feature provides a Call Forward Indication (CFIND) for Meridian Digital Centrex (MDC) or Residential Enhanced Services (RES) sets. When the subscriber activates call forwarding, an indication tone warns the user that the set is forwarded.

MMP14 introduces the following enhancements:

- cut-through dialing is supported. That is, if a user begins to dial before the CFIND tone is complete, the dialed digits are accepted, and the CFIND tone is stopped.
- the range of the CFIND tone duration is increased. Before MMP14, the range was 500 ms to 4000 ms. From MMP14, the range is 0 ms to 4000 ms.
- the types of call forwarding to which the CFIND tone applies can be specified. A bool-type subfield CF_UNCONDITIONAL is provided in both line option CFIND and customer group option CFIND. If the bool is set to ‘Y’, then the indication tone is provided for CFU, CFI, and CFF only. If it is set to ‘N’, indication tone is provided for all the types of call forwarding supported by this feature.

The CF_UNCONDITIONAL bool applies to the MMP market only.

Operation

When a subscriber forwards an MDC or RES set, the system starts the CFIND feature. This feature supports many types of call forwarding. The following is a list of the MDC call forwarding features:

- CFU: Call Forward Universal
- CFI: Call Forward Intragroup

Call Forward Indication (continued)

- CFF: Call Forward Fixed
- CFO: Call Forward to Operator
- CFTANN: Call Forward to Announcement
- CFB: Call Forward Busy (except for types with no subscriber control)
- CFD: Call Forward Don't Answer (except for types with no subscriber control)

This feature applies to all CFB and CFD types that allow the subscriber to control activation and deactivation.

The following is a list of RES call forwarding features that this feature supports:

- CFW: Call Forwarding
- CFBL: Call Forward Busy Line
- CFDA: Call Forward Don't Answer

The Call Forward Indication feature supports only those types of call forwarding that have subscriber control for activation or deactivation. This feature does not support any types of call forwarding types that only the operating company activates or deactivates.

The CFIND feature provides a special indication tone to a user with a forwarded telephone. For the customer group option, the system provisions CFIND in table CUSTSTN. The technician selects which indication tone to use from table STN (CWT, Busy Verification Tone (BVTONE), or DISTCWT) and the period to which the indication tone applies.

The system must program and activate a call forwarding feature on the line, and provision CFIND, to hear the CFIND tone.

If a subscriber has an active call forwarding feature when the system provisions CFIND, the subscriber does not hear the CFIND tone. The subscriber must deactivate and reactivate the call forwarding feature to hear the CFIND tone. If the call forwarding feature is active when the system provisions CFIND in the Service Order System (SERVORD), the tone sounds when the subscriber goes off-hook.

Call Forward Indication (continued)

Translations table flow

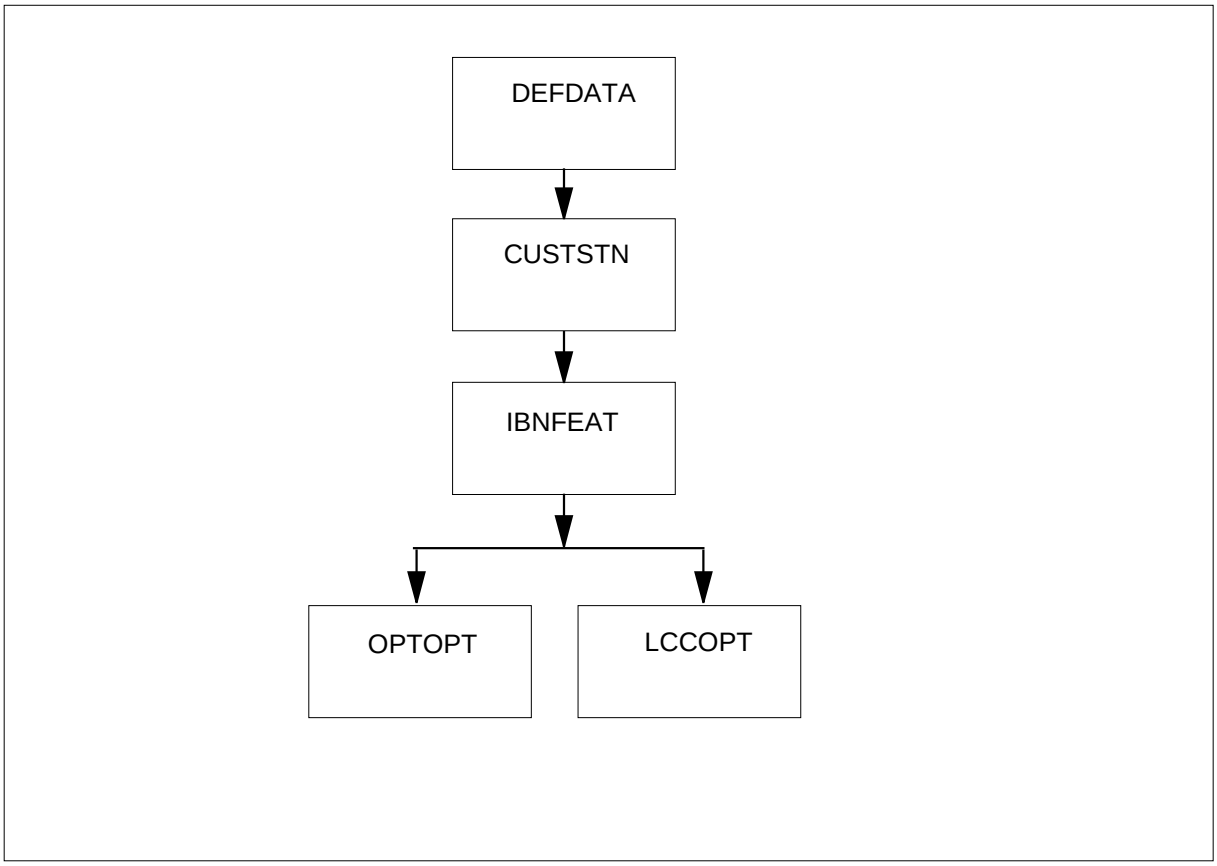
The list that follows includes the Call Forward Indication translations tables:

- Table DEFDATA (Default Data) contains default values for data types defined in the DMS switch. Two tuples in table DEFDATA provide default values when provisioning CFIND in table CUSTSTN.
- Table CUSTSTN (Customer Group Station Option) lists station options assigned to each customer group. A switching unit with North American translations and MDC or Subscriber Services (SS) features requires table CUSTSTN.
- Table IBNFEAT lists line features assigned toMDC (IBN) lines listed in table IBNLINES. This table introduces subfield DURATION for line option CFIND.
- Table OPTOPT (Incompatible Option) is a read-only table and the user cannot modify the table. Table OPTOPT lists incompatible line options for each line option. Table OPTOPT includes option CFIND with a list of incompatible options.
- Table LCCOPT (Line Class Code Option) is a read-only table and the user cannot modify the table. The system references table LCCOPT to check compatibility between LCC and options. The system does not allow incompatible options on the same line. Table LCCOPT includes option CFIND in the COMPAT field for MDC and RES lines.

The flowchart that follows provides the Call Forward Indication translations process.

Call Forward Indication (continued)

Table flow for Call Forward Indication



The table that follows lists the datafill content used in the flowchart.

Datafill example for Call Forward Indication

Datafill table	Example data
DEFDATA	SPECIAL_TONE_INDEX CWT CFIND_TONE_DURATION_TYPE 1000
CUSTSTN	RGA CFIND CFIND CWT 1000
IBNFEAT	HOST 03 0 01 20 0 CFIND CFIND CWT 1500

Limitations and restrictions

The feature can only be provisioned on lines with a line class code (LCC) of MDC or RES. If the system provisions CFIND through table CUSTSTN, the subscriber does not hear the tone on RES lines in that group. On RES lines, the system provisions and activates the feature on separate lines.

Call Forward Indication (continued)

Features APS, BNN, CIR, DLH, DNH, HOT, LRS, MDN, and MLH are incompatible with CFIND. SERVORD does not allow any of these options to work with CFIND. The system can provision CFIND in table CUSTSTN with these options on separate lines in the customer group. The system does not support this action, but the action does not result in traps, SWERRS, or call deaths.

The Call Forward Remote Access (CFRA) feature does not support CFIND. A subscriber with CFRA can dial an access number to install call forwarding from any line. The subscriber does not receive the CFIND tone when off-hook, even if the system assigns CFIND to the line or group.

If the system adds the deny originator (DOR) option to a line with CFIND through SERVORD, the the subscriber does not hear the CFIND tone.

Interactions

The paragraphs that follow describe how Call Forward Indication interacts with other functionalities.

CFIND operates with message waiting, UCD login indicator, and features that use stuttered dial tone.

Station Message Detail Recording

Call Forward Indication does not require Station Message Detail Recording.

Office parameters used by Call Forward Indication

Call Forward Indication does not generate office parameters.

Call Forward Indication (continued)

Datafill sequence

The table that follows lists the tables that require datafill to put Call Forward Indication into operation. You must enter data into the tables in this order.

Datafill requirements for Call Forward Indication

Table	Purpose of table
IBNFEAT (Note 1)	IBN Line Features. This table contains the line features the system assigns to the Meridian Digital Centrex (IBN) lines listed in table IBNLINES.
CUSTSTN	Customer Group Station Option. A switching unit with North American translations and the Meridian Digital Centrex (MDC) or Residential Enhanced Services (RES) requires this table. This table lists the station options assigned to each of the customer groups.
DEFDATA	Default Data. This table contains default values for data types defined in the DMS switch.
LCCOPT (Note 2)	Line Class Code Compatible Options. This table contains information about line options that are compatible with each LCC.
OPTOPT (Note 2)	Incompatible Options. This table contains information about line options that are not compatible with other line options.

Note 1: The operating company uses SERVORD to datafill this table. This document does not provide a datafill procedure or example for this table. Refer to “SERVORD" for an example on how to use SERVORD to enter data in this table.

Note 2: This table is a read-only table that the operating company cannot modify. Therefore, this document does not provide a datafill procedure or example for this table.

Datafill related to Call Forward Indication for table CUSTSTN

The table that follows provides the datafill related to Call Forward Indication for table CUSTSTN. This table includes only those fields that apply directly to Call Forward Indication.

Datafill related to table CUSTSTN (Sheet 1 of 2)

Field	Subfield	Entry	Explanation and action
CUSTNAME		alphanumeric 1 to 16 characters	Customer group name. Enter the customer group name.
OPTNAME		CFIND	Option name. Enter value CFIND for Call Forward Indication. Option CFIND provides a special dial tone to indicate call forwarding.

Call Forward Indication (continued)

Datafill related to table CUSTSTN (Sheet 2 of 2)

Field	Subfield	Entry	Explanation and action
OPTION		CFIND	Option. Enter option CFIND for Call Forward Indication. Provision subfields CFIND_TONE and CFIND_TONE_DURATION.
	CFIND_TONE	alphanumeric 1 to 16 characters	Call Forward Indication Tone. Enter the tone name from subfield TONE in table STN.
	CFIND_TONE_ DURATION	numeric	Duration. Enter a duration value for the indication tone. Enter a value between 0 (for 0 ms) to 4000 (for 4 s), in steps of 250 (250 ms). The default value is 1000 (1 s). You must set this value in table DEFDATA.
	CF_UNCONDITIO NAL	Y or N	If this boolean is set to Y, CFIND tone is provided only for the call forward universal (CFU), call forward intragroup (CFI), and call forward fixed (CFF). If the boolean is set to N, tone is provided for all types of call forwarding. The normal default value is N. You must set the default value in table DEFDATA.

Datafill example for table CUSTSTN

The figure that follows shows sample datafill for table CUSTSTN.

MAP example for table CUSTSTN

```
CUSTNAME            OPTNAME                OPTION

-------------------------------------------------------

RGAT                CFIND             CFIND CWT 1000 N
```

Datafill related to Call Forward Indication for table DEFDATA

The table that follows provides the datafill related to Call Forward Indication for table DEFDATA. This table includes only those fields that apply directly to Call Forward Indication.

Datafill related to table DEFDATA

Field	Subfield	Entry	Explanation and action
DATATYPE		alphanumeric 1 to 32 characters	Data type. Enter the name of the data type that requires a default value.
DEFAULT		alphanumeric 1 to 32 characters	Default values. This field contains two parts. The first part is the data type entry in field DATATYPE. The second part contains the default values for the indicated data type. You must enter the key field of the tuple as part of the default. The default value does not appear in the table editor prompt mode.
	CFIND		Call Forward Indication. Two tuples provide default values for CFIND in table CUSTSTN.
		SPECIAL_TONE_ INDEX	Special tone index. This tuple provides a default value for CFIND in table CUSTSTN.
		CFIND_TONE_ DURATION_TYPE	CFIND tone duration type. This tuple provides a default value for CFIND in table CUSTSTN.

Datafill example for table DEFDATA

The figure that follows shows sample datafill for table DEFDATA.

MAP example for table DEFDATA

```
TABLE DEFDATA

                    DATATYPE                                    DEFAULT
-----------------------------------------------------------------------

                    MTA_YES_NO       MTA_YES_NO N
```

Translation verification tools

Call Forward Indication does not use translation verification tools.

Call Forward Indication (continued)

SERVORD

This feature adds line option CFIND to MDC and RES lines.

SERVORD limitations and restrictions

The following options are not compatible with the CFIND line option:

- APS (attendant pay station)
- BNN (bridged night number)
- CIR (circular hunt)
- DLH (distributed line hunt)
- DNH (directory number hunt)
- HOT (hotel)
- LRS (line reversal on seizure)
- MDN (multiple appearance directory number)
- MLH (multi line hunt)

No other option requires assignment for the SERVORD to be successful. However, the CFIND option does not trigger unless the system provisions and activates one of the following types of call forwarding:

- CFU
- CFI
- CFF
- CFO
- CFTANN
- CFB
- CFW
- CFBL
- CFDA
- CFD

CFB and CFD types of “no subscriber control" do not receive the CFIND indication tone.

Call Forward Indication (continued)

SERVORD prompts

The table that follows provides the SERVORD prompts used to assign Call Forward Indication to an MDC or RES line.

Input prompts for the CFIND option (Sheet 1 of 2)

Prompt	Valid input	Explanation
SONUMBER	See SONUMBER in the Prompts table in Chapter 2 for information about valid inputs.	The number of the service order that the user enters.
DN_OR_LEN	See DN and LEN_OR_LTID in the Prompts table in Chapter 2 for information about valid inputs.	Enter the directory number (DN) or line equipment number (LEN) of the line. For an MDN line or MLH/DLH hunt members, if the user specifies a DN, the system prompts the user for the LEN. If the user enters the LEN, the system does not prompt the user for the DN.
OPTION	See the Line service options table in Chapter 2 for a list of valid inputs.	Options for a service to establish, modify, or delete. The user can indicate a maximum of 20 options in each ADD, ADO, EST, or NEW command.
STN_TONE	Special_Tone_Index	Tones stored in table STN in the index from TONE_TABLE when tone selector is STN.

Call Forward Indication (continued)

Input prompts for the CFIND option (Sheet 2 of 2)

Prompt	Valid input	Explanation
DURATION	Numeric, 0 to 4000 (increments of 250)	Duration of the indication tone. Enter a value between 0 (for 0 s) to 4000 (for 4 s), in increments of 250 (0.25 s).
CF_UNCONDITIONAL (bool)	Y or N	Set to Y to provide CFIND tone only for call forward universal (CFU), call forward intragroup (CFI), and call forward fixed (CFF). Set to N to provide CFIND tone for all types of call forwarding. The normal default value is N. You must set the default value in table DEFDATA.

SERVORD example to assign Call Forward Indication

The SERVORD example that follows shows how to add Call Forward Indication to an MDC or RES line.

SERVORD example for Call Forward Indication in prompt mode

```
>ADO
SONUMBER:    NOW   98 8 28 AM
>
DN_OR_LEN:
>6210003
OPTION:
>CFIND
STN_Tone:
>CWT
DURATION (MILLISECONDS) : 1000
>2445
CF_UNCONDITIONAL: N
>
OPTION:
> $
```

Call Forward Indication (end)

The SERVORD example that follows shows how to add Call Forward Indication to an MDC or RES line in no-prompt mode.

SERVORD example for Call Forward Indication in no-prompt mode

```
> ado $ 5204049 cfind cwt 2445 $
```

10 Introduction to MDC to 10-digit Routing

Understanding MDC to 10-digit routing

Meridian Digital Centrex (MDC) is a collection of business communication services utilizing the capabilities of a DMS-100 office to provide centralized telephone service.

The DMS-100 can support up to 4095 customer groups. Customer groups may be private, public, or a member of a family of customer groups. The equipment includes single sets, business sets, and attendant consoles.

The MDC software includes a broad spectrum of telephone features that allow a user to perform special functions. Not all MDC features are compatible with each other.

The primary function of the 10-digit dial plan, otherwise known as the North American numbering plan or the Standard Numbering Plan, is the handling of plain ordinary telephone system (POTS) traffic. This traffic occurs when a source, called an originator, dials digits that represent a destination.

The digits dialed must conform to the Standard Numbering Plan. This plan consists of two basic parts: a three-digit numbering plan area (NPA) code that identifies a geographical area and a seven-digit directory number (DN) that is

made up of a three-digit central office (CO) code and a four-digit line number as follows:

- NXX - NXX - XXXX
  (NPA) - (CO) - (line number)

Long distance dialing is made possible by the addition of a toll digit (1) dialed before the above digital sequence.

- 1 - NXX - NXX - XXXX(toll) - (NPA) - (CO) - (line number)

where
N is a digit from 2 to 9
X is a digit from 0 to 9

Signaling for MDC to 10-digit routing

Not applicable

Preparing to datafill MDC to 10-digit routing

Before a call can be routed from MDC to 10-digit translations, the following data for the originating line must be established:

- customer group name
- one- to eight-character name to specify the following translators:
  - — customer
  - — feature
  - — preliminary
  - — octothorpe
- basic and alternate digit plans
- customer group options
- network class of service (NCOS)

This information is defined in MDC tables IBNLINES, NCOS, CUSTHEAD, and DIGCOL.

The routing tables IBNXLA and LINEATTR take the customer translator and the leading digit of the destination and send the call to the appropriate 10-digit translations tables.

Table STDPRTCT determines the routing path and type of the call based on the digits dialed. Table HNPACONT assigns the serving numbering plan area (SNPA) or serving translation scheme (STS), and its subtable HNPACODE lists the route, treatment, or table for each of the 1000 three-digit codes (000 to 999).

Functional groups for MDC to 10-digit routing

MDC and 10-digit routing has no functional groups.

MDC to 10-digit routing

Ordering codes

MDC to 10-digit routing has no ordering codes.

Release applicability

TL03 and up

Prerequisites

MDC to 10-digit routing has no prerequisites.

Description

This section details the datafill required to route a call from Meridian Digital Centrex (MDC) to the 10-digit environment. The following list contains the system elements whose operation and translations are described in “Operation":

- direct outward dialing (DOD) calls
- Electronic Switched Network (ESN) calls
- private (PVT)

Operation

DOD allows an MDC user to access the exchange network without attendant assistance.

The ESN is a business communications network consisting of a number of nodes connected through dedicated links with access to the public network.

PVT is a business communications network connecting the private branch exchange (PBX) to its virtual private network (VPN) through designated access codes.

Translations table flow for MDC to 10-digit routing

The dialed digits that originate from an MDC office must first be translated by the appropriate MDC tables.

Table IBNLINES determines what options are assigned to the station making the call. This table associates a line equipment number (LEN) with a customer group name, a directory number (DN), and a network class of service (NCOS). Other features and their parameters are assigned in table IBNFEAT.

If the call originates from a business set or data unit, translations is initiated in tables KSETLINE and KSETFEAT.

MDC to 10-digit routing (continued)

The dialed digits are then translated by other MDC tables such as table NCOS, table CUSTHEAD, and table DIGCOL.

For more information on MDC translations, refer to the “Meridian Digital Centrex Translations Guide" section in this document.

In tables IBNXLA and LINEATTR, the digits are translated to effect the crossover to universal translations. If the dialed digits are not datafilled in table IBNXLA, then table XLANAME is used.

In table IBNXLA, the translator is required if one or more access codes for a Digitone station have an asterisk (*) as a leading control digit. Otherwise, the translator is optional.

Table XLANAME stores the default data, including the allowable digilator range, for each translator. If no access code is found in table IBNXLA for a particular translator, default data from table XLANAME is used. If there is no default data for the operating company client group translator, the treatment specified in field VACTRMT of table CUSTHEAD is used. Table XLANAME controls the addition and deletion of translators in table IBNXLA. Each translator is assigned an alphanumeric one- to eight-character default value, default data, and an allowable digilator range.

Further digit translation occurs in the 10-digit translations, beginning with tables LINEATTR, STDPRTCT, and HNPACONT and their respective subtables.

For PVT calls, the processing routes from table IBNXLA directly into table HNPACONT, bypassing tables LINEATTR and STDPRTCT.

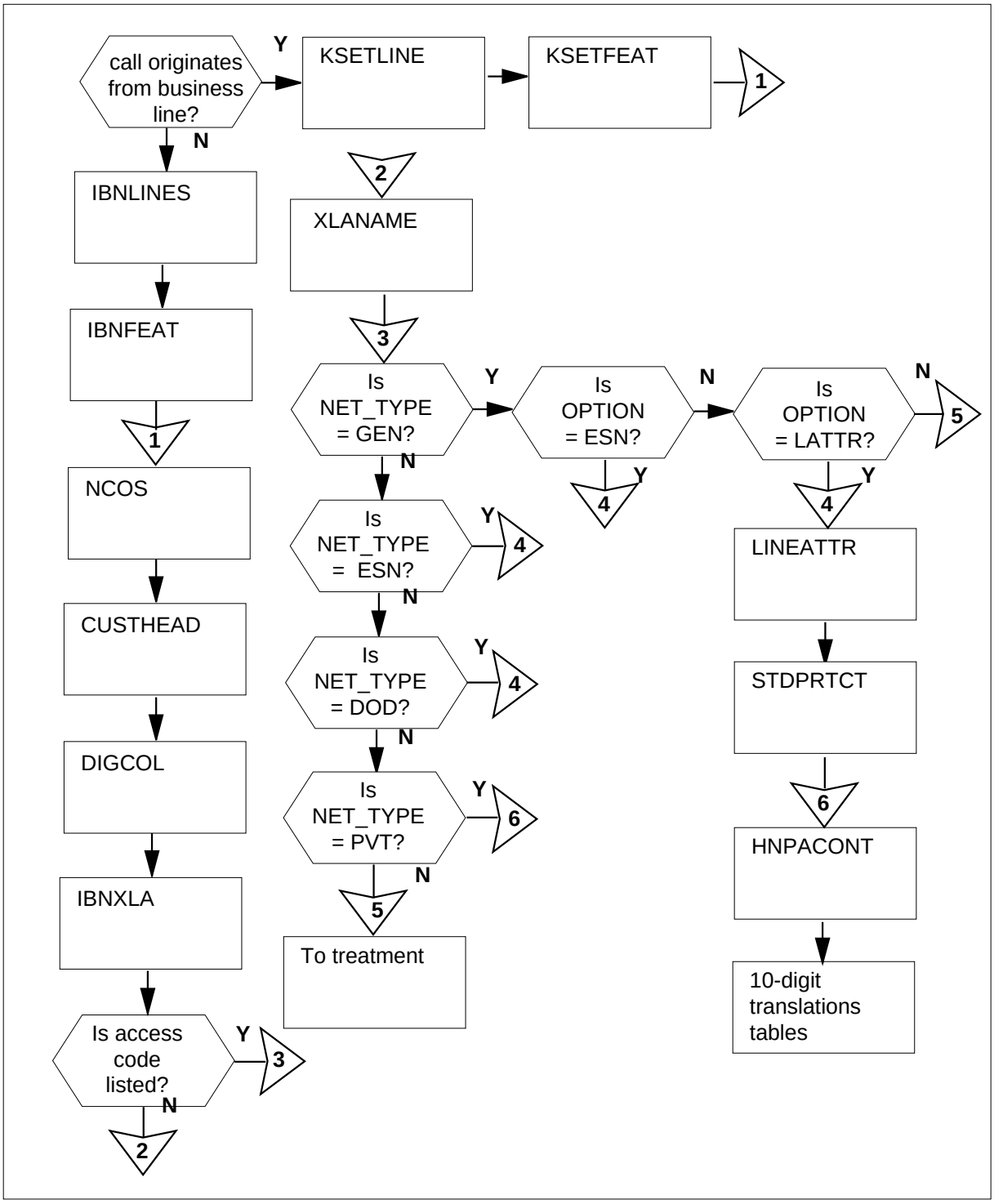
The MDC to 10-digit routing translations tables are

- XLANAME
- IBNXLA
- LINEATTR

The process of MDC calls routed to 10-digit translations is shown in the flowchart that follows.

MDC to 10-digit routing (continued)

Table flow for MDC to 10-digit routing



MDC to 10-digit routing (continued)

The following table lists the datafill content used in the flowchart where the network type is DOD.

Datafill example for MDC to 10-digit routing

Datafill table	Example data
KSETLINE	REM0 01 1 05 17 1 DN Y 6210517 COMKODAK 0 0 613 $
NCOS	COMKODAK 0 KDK0 0 0 (OHQ 0 TONE_OHQ) (CBQ 0 3 N 2) (ERWT) $
CUSTHEAD	COMKODAK CXDK KDK NIL (VACTRMT 0) (EXTNCOS 0) (ACCT 5 N N) (PLMXLA PXDK) (ERDT 1) (SUPERCNF) (CUTPAUSE 3) (CUTIMOUT 10) (CPK N 4) (ESAPXLA ESACXDK) $
DIGCOL	KDK 9 RPT
XLANAME	CXDK $ 9
IBNXLA	CXDK 9 NET N Y N 1N Y POTS Y N DOD N 145 NONE $
LINEATTR	145 IBN NONE NT FR01 0 613 PKDK L613 TSPS 0 NIL NILSFC NILLATA 0 NIL NIL 00 N $
STDPRTCT	PKDK (1) (65021)
subtable STDPRT	20 22 10 N NP 0 NA
HNPACONT	613 130 2 (24) (1) (0) (1)
subtable HNPACODE	6130 6131 VCT HNPI

The following table lists the datafill content used in the flowchart where the network type is PVT.

Datafill example for MDC to 10-digit routing (Sheet 1 of 2)

Datafill table	Example data
KSETLINE	HOST 01 0 13 31 1 DN Y 5804712 F13065804BIBN 0 4 306 (CWT) (3WC) (RAG) (CPU) CFX) (MWT) $
NCOS	F13065804BIBN 4 F1306B 0 0 (XLAS F5804PXLA NXLA NDGT) $
CUSTHEAD	F13065804BIBN F5804XLA F5804DC NIL (VACTRMT 1) (EXTNCOS 0)(ACCT 7 N N) (FETXLA FIBNFEAT) (MHOLD 3 AUDIO7) (ACR ACCT 1) (TODNOS 5804NCOS) (OCTXLA F804OCT) (CPK Y AUDIO7 50) (ESAPXLA F5804XLA) $

MDC to 10-digit routing (continued)

Datafill example for MDC to 10-digit routing (Sheet 2 of 2)

Datafill table	Example data
DIGCOL	F5804DC 8 COL S 1
XLANAME	F5804XLA $ 9
IBNXLA	F5804XLA 8 NET N Y N 1 Y NDGT N N PVT 080 LCL NSCR $
HNPACONT	080 30 0 (0) (0) (0) (0)

Limitations and restrictions

No more than 18 digits can be dialed for an MDC to 10-digit call.

Billing

For information on billing, refer to the Bellcore format AMA translations section of this document.

Datafilling office parameters

The following table shows the office parameters used by MDC to 10-digit routing. For more information about office parameters, refer to *Office Parameters Reference Manual.*

Office parameters used by MDC to 10-digit routing (Sheet 1 of 2)

Table name	Parameter name	Explanation and action
OFCENG	NUM_IBN_IXLA_EXT_BLOCKS	Enter a number from 0 to 3200 to specify the maximum number of MDC world system (international) translation extension blocks required for the engineering interval. The value entered here determines the maximum number of calls that can route to universal translations from MDC at any one time. The value should be equal to the maximum number of outgoing MDC (trunk group type IBNTO) trunks that carry international direct distance dialing (IDDD) through automatic route selection (ARS) traffic that can be reached when translating through table PXHEAD.

MDC to 10-digit routing (continued)

Office parameters used by MDC to 10-digit routing (Sheet 2 of 2)

Table name	Parameter name	Explanation and action
	NCCBS	Enter a number from 0 to 65 535 to specify the number of call condense blocks (CCB) required for the switching unit. A CCB is a software register associated with a call throughout its duration, containing information such as the identity of the calling and called appearances. The default value is 80.
	NEMECCBS	This parameter specifies the number of extended call condense blocks (ECCB) required. The minimum value is 1 and the maximum is the value of NCCBS. This parameter is read-only and its value cannot be changed. It can be used to see how many ECCBs have been provided. The default value is 65.

Datafill sequence

The following table lists the tables that require datafill to implement MDC to 10-digit routing. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for MDC to 10-digit routing

Table	Purpose of table
XLANAME	The translation name table controls the addidtion and deletion of translators in table IBNXLA. This table stores the default data for each translator not found in table IBNXLA.
IBNXLA	The Integrated Business Network (IBN) translation table defines the dialing plan for each customer group.
LINEATTR	The line attribute table assigns line attributes to IBN stations, attendant consoles, and regular lines of a customer group.

Datafilling table XLANAME

Table XLANAME lists all the translators in table IBNXLA. If the access code is not specified in table IBNXLA, the default data in this table will be used.

The following table shows the datafill specific to MDC to 10-digit routing for table XLANAME. Only those fields that apply directly to MDC to 10-digit

MDC to 10-digit routing (continued)

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

Datafilling table XLANAME

Field	Subfield or refinement	Entry	Explanation and action
XLANAME		alphanumeric (1 to 8 characters)	Translator name. Enter the name that is assigned to the customer, feature, or preliminary translator.
DEFAULT		see subfield TRSEL in table IBNXLA	Default data. This field is a vector that consists of translation selector subfield TRSEL and refinements dependent on this selector. It is identical to field RESULT in table IBNXLA. See table IBNXLA for a full description of field RESULT and refinements. Enter $ if there is no default data.

Datafill example for table XLANAME

The following example shows sample datafill for table XLANAME.

MAP display example for table XLANAME

```
XLANAME     DEFAULT                                          MAXDIG
_____________________________________________________________________
POTSXLA    (NET N N N 0 N POTS N Y DOD N 0 NONE $) $    9
```

Datafilling table IBNXLA

The following table shows the datafill specific to MDC to 10-digit routing for table IBNXLA. Only those fields that apply directly to MDC to 10-digit

MDC to 10-digit routing (continued)

routing 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	alphanumeric (1 to 8 characters)	Translator name. Enter the name assigned to the translator.
	DGLIDX	vector of up to 18 digits	Digilator index. Enter the digit or digits assigned as an ambiguous code. The range of this field depends on field MAXDIG in table XLANAME. The DGLIDX can accept overdecadic digits. The allowable values for the digilator portion of DGLIDX in table IBNXLA are as follows: *MAXDIG value* — *IBNXLA digilator values* 9 — digits 0 to 9 C — digits 0 to 9 and B to C F — digits 0 to 9 and B to F The allowable digit range for table IBNXLA digilator values is determined for each translator.
RESULT			Result. This field consists of subfield TRSEL and its refinements.

MDC to 10-digit routing (continued)

Datafilling table IBNXLA (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	TRSEL	NET	Translation selector. Enter NET. Complete subfields ACR, SMDR, NO_ACCODE_DIGITS, SECOND_DIAL_TONE, DGCOLNM, CRL, INTRAGRP, NETWORK AREA, and NETOPTNS.
	NET_TYPE	GEN, DOD, ESN, or PVT	Network type. For a general network, enter GEN and complete subfield OPTIONS. If the digits dialed represent the DOD access code, enter DOD and complete subfields SMDRB, LINEATTR, and TOLL_RESTRICTION. If the digits dialed represent the ESN access code, enter ESN and complete subfields SMDRB and LINEATTR. If the digits dialed are the access code to a private network, enter PVT and complete subfields STS, ORIGSOURCE, and SCRNCLASS.

Datafill example for table IBNXLA

The following example shows sample datafill for table IBNXLA.

MAP display example for table IBNXLA

```
KEY                 RESULT
_____________________________________________________________________
EA54XLA  9          NET  N  N  1  Y  NDGT  Y  Y  GEN  (LATTR  473)  $
```

Datafilling table LINEATTR

The following table shows the datafill specific to MDC to 10-digit routing for table LINEATTR. Only those fields that apply directly to MDC to 10-digit

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

Datafilling table LINEATTR

Field	Subfield or refinement	Entry	Explanation and action
LNATTIDX		0 to 31 999	Line attribution Index. Enter the index into table LINEATTR.
LCC		alphanumeric (up to 8 characters)	Line class code. Enter IBN.
PRTNM		alphanumeric (up to 4 characters) or NPRT	Standard pretranslator subtable name. If pretranslation of digits is required, enter the name of the standard pretranslator subtable assigned to the line attribute index. If standard pretranslation is not required, enter NPRT.
LCANAME		alphanumeric (up to 5 characters) or NLCA	Local calling area screening subtable name. If screening of local central office codes (NNX) is required, enter the name of the local calling area subtable assigned to the line attribute index. If screening of local NNX codes is not required, enter NLCA.

Datafill example for table LINEATTR

The following example shows sample datafill for table LINEATTR.

MAP display example for table LINEATTR

```
LNATTIDX    LCC   CHGCLSS   COST SCRNCL LTG STS PRTNM
LCANAME ZEROMPOS   TRAFSNO  MRSA    SFC     LATANM   MDI
IXNAME     DGCLNAME   FANIDIGS      RESINF       OPTIONS
_____________________________________________________________
71          IBN   NONE      NT   NSCR   0   819 P420
P420    RTE4      10        NIL     NILSFC  NILLATA    0
NIL         NIL       00            N            $
```

Translation verification tools

The following example shows the output from TRAVER when it is used to verify MDC to 10-digit routing using DOD.

MDC to 10-digit routing (continued)

TRAVER output example for MDC to 10-digit routing using DOD

```
TRAVER L 3937222 64162211234 B
TABLE KSETLINE
MRCC 01 1 16 28 1 DN Y 3937222 BNRCAR 0 35 001 (3WC) (RAG) (LNR)
       (AUTODISP) (CFX) $
TABLE DNATTR
001 393 7222
 (PUBLIC (NAME_BOB_BARRETT) $ ) $ $
TABLE DNGRPS
TUPLE NOT FOUND
TABLE KSETFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
TUPLE NOT FOUND
TABLE OFCAR
AIN_OFFICE_TRIGGRP NIL
AIN Orig Attempt TDP: no subscriber trigger
TABLE NCOS
BNRCAR 35 0 20 MERBNR (XLA NBNR_MER NXLA NDGT)4
TABLE CUSTHEAD: CUSTGRP, PRELINXLA, CUSTXLA, FEATXLA, VACTRMT, AND
DIGCOL
BNRCAR PREXLA NEWLA FXLA 0 BNR1
TABLE DIGCOL
BNR1 6 POTS Y
TABLE IBNXLA: XLANAME NBNR_MER
TUPLE NOT FOUND
Default is to go to next XLA name
TABLE IBNXLA: XLANAME PREXLA
TUPLE NOT FOUND
Default is to go to next XLA name
TABLE IBNXLA: XLANAME NEWLA
NEWLA 641 NET N Y N 1 Y INTK N N DOD N 4 NONE
TABLE DIGCOL
INTK 4 COL L 7
```

—continued—

MDC to 10-digit routing (continued)

TRAVER output example for MDC to 10-digit routing using DOD

```
TABLE LINEATTR
4 IBN NONE NT NTTK 0 001 LOC6 NLCA NONE 0 NIL NILSFC NILLATA 0 NIL NIL
00 N
LCABILLOFF – BILLING DONE ON BASIS OF CALLTYPE
TABLE STDPRTCT
LOC6 ( 1)  (65021)  0
 .  SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE BILLING.
CALL TYPE DEFAULT IS NP.  PLEASE REFER TO DOCUMENTATION.
 . KEY NOT FOUND
 . DEFAULT VALUE IS N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS: NONE OVRNONE N
TABLE HNPACONT
001 345 0 ( 248) ( 1) ( 0) ( 0) 0
 . SUBTABLE HNPACODE
 . 416 416 FNPA 0
TABLE FNPACONT
416 22 – ( 800) ( 1) ( 3)
 . SUBTABLE FNPASTS
 . SUBTABLE FNPACODE
 . 221 226 4 Y
 . SUBTABLE RTEREF
 .  .      4 T IBNRTE  18
 .  .  .  TABLE IBNRTE
 .  .  .  18 S N N N N MATHBNRBURN
 .  .  .   S N N N N MATHNTL32
 .  .  .   CND TOD WATSDOD 0 SK 1
 .  .  .   S N N N N BRITBNROW
 .  .  .   N N N N N BRITBNRDOD  19
 .  .  .  .   TABLE DIGMAN
 .  .  .  .     19  (INC 1)
 .  .  .  .     EXIT TABLE DIGMAN
 .  .  .
                                —continued—
```

MDC to 10-digit routing (continued)

TRAVER output example for MDC to 10-digit routing using DOD

```
 .  .  .      N N N N N BRITBNR2WY 19
 .  .  .  . TABLE DIGMAN
 .  .  .   .    19  (INC 1)
 .  .  .  .    EXIT TABLE DIGMAN
 .  .  .
 .  .  .  .     EXIT TABLE IBNRTE
 .   EXIT TABLE RTEREF
EXIT TABLE FNPACONT
TABLE CLSVSRC
001 NTTK  NP  2  N  NONE  ( 0)
 . SUBTABLE CLSVSCR
KEY NOT FOUND
DEFAULT IS TO LEAVE XLA RESULT UNCHANGED


+++TRAVER: SUCCESSFUL CALL TRACE +++



DIGIT TRANSLATION ROUTES

1 MATHBNRBURN   416221234  ST
2 MATHNTL32     416221234  ST
3 BRITBNROW     416221234  ST
4 BRITBNRDOD   1416221234  ST
5 BRITBNR2WY   1416221234  ST


TREATMENT ROUTES.  TREATMENT IS :GNCT
1 NCA
2 T120
3 LKOUT


+++TRAVER: SUCCESSFUL CALL TRACE +++

>
>



                                        –end–
```

The following example shows the output from TRAVER when it is used to verify MDC to 10-digit routing using ESN.

MDC to 10-digit routing (continued)

TRAVER output example for MDC to 10-digit routing using ESN

```
TRAVER L 3955291 63337206 B
TABLE KSETLINE
FUNC 401 1  DN Y 3955291 BNRCAR 0 35 001 (LNR) (SFC)
TABLE DNATTR
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE NCOS
BNRCAR 35 0 20 MERBNR (XLA NBNR_MER NXLA NDGT)
TABLE CUSTHEAD: CUSTGRP, PRELINXLA, CUSTXLA, FEATXLA, VACTRMT, AND
DIGCOL
BNRCAR PREXLA NEWLA FXLA 0 BNR1
TABLE DIGCOL
BNR1 6 POTS Y
TABLE IBNXLA: XLANAME NBNR_MER
TUPLE NOT FOUND
Default is to go to next XLA name
TABLE IBNXLA: XLANAME PREXLA
TUPLE NOT FOUND
Default is to go to next XLA name
TABLE IBNXLA: XLANAME NEWLA
NEWLA 633 NET N Y N 1 Y INTK N Y ESN N 4 $
TABLE DIGCOL
INTK 3 COL L 7
TABLE LINEATTR
4 IBN NONR NT NTTK 0 001 LOC6 NLCA NONE 0 NIL NILSFC NILLATA 0 NIL NIL
00 N
LCABILLOFF—BILLING DONE ON BASIS OF CALLTYPE
TABLE STDPRTCT
LOC6 ( 1)  (65021)  0
 .  SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE BILLING.
CALL TYPE DEFAULT IS NP.  PLEASE REFER TO DOCUMENTATION
 . 3337 3338 T NP 0 IBNRTE 7 7 NONE
Originator is not an AIN agent, therefore AIN info is not processed.
 .  . TABLE IBNRTE
 .  . 351 N N N N N MATHBNRBURN 807

                                —continued—
```

MDC to 10-digit routing (continued)

TRAVER output example for MDC to 10-digit routing using ESN

```
 .  .  .  TABLE DIGMAN
 .  .  .     807  (REM 3)  (INC 874)
 .  .  .  EXIT TABLE DIGMAN
 .  .
 .  .          S N N N N  MATHNTL32
 .  .          S N N N N  BRITBNRVNET
 .  .          N N N N N  BRITBNROW 808
 .  .  .  TABLE DIGMAN
 .  .  .     807  (REM 3)  (INC 905874)
 .  .  .  EXIT TABLE DIGMAN
 .  .
 .  .          N N N N N  BRITBNRDOD 809
 .  .  .  TABLE DIGMAN
 .  .  .     807  (REM 3)  (INC 1905874)
 .  .  .  EXIT TABLE DIGMAN
 .  .
 .  .          N N N N N  BRITBNR2WY 809
 .  .  .  TABLE DIGMAN
 .  .  .     807  (REM 3)  (INC 1905874)
 .  .  .  EXIT TABLE DIGMAN
 .  .
 .  .  EXIT TABLE IBNRTE
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS: NONE OVRNONE  N



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

—continued—

MDC to 10-digit routing (end)

TRAVER output example for MDC to 10-digit routing using ESN

```
DIGIT TRANSLATION ROUTES

1 MATHBNRBURN   8747206
2 MATHNTL32     3337206     ST
3 BRITBNRVNET    N  CDN  PVT  L  3337206 NIL_NSF  BC  SPEECH
4 BRITBNROW      9058747206
5 BRITBNRDOD    19058747206
6 BRITBNR2WY    19058747206


TREATMENT ROUTES.  TREATMENT IS :GNCT
1 NCA
2 T120
3 LKOUT


+++TRAVER: SUCCESSFUL CALL TRACE +++

-end-
```

11 Introduction to MDC to Universal Routing

Understanding MDC to Universal routing

Meridian Digital Centrex (MDC) is a collection of business communication services utilizing the capabilities of a DMS-100 office to provide centralized telephone service.

The DMS-100 can support up to 4095 customer groups. Customer groups may be private, public, or a member of a family of customer groups. The equipment includes single sets, business sets, and attendant consoles.

The MDC software includes a broad spectrum of telephone features that allow a user to perform special functions. Not all MDC features are compatible with each other.

The international DMS-100 office performs call processing by translating digit strings using Universal translations. Digit translation can do the following operations:

- Route the call to a terminating subscriber line, an outgoing trunk group, or another network.
- Determine the applicable treatment code to present to the correct combination of announcements, tones, or both, to the originator.
- Recognize or replace the received digit string before outpulsing.
- Determine the parameters required for screening and billing.

Signaling for MDC to Universal routing

MDC to Universal transaltions has no functional groups.

Preparing to datafill MDC to Universal routing

The following figure is an example of a TRAVER output when a call originates from a simple IBN line, 2703003, to an international number, 2083004.

Figure 11-1 Universal translations flow

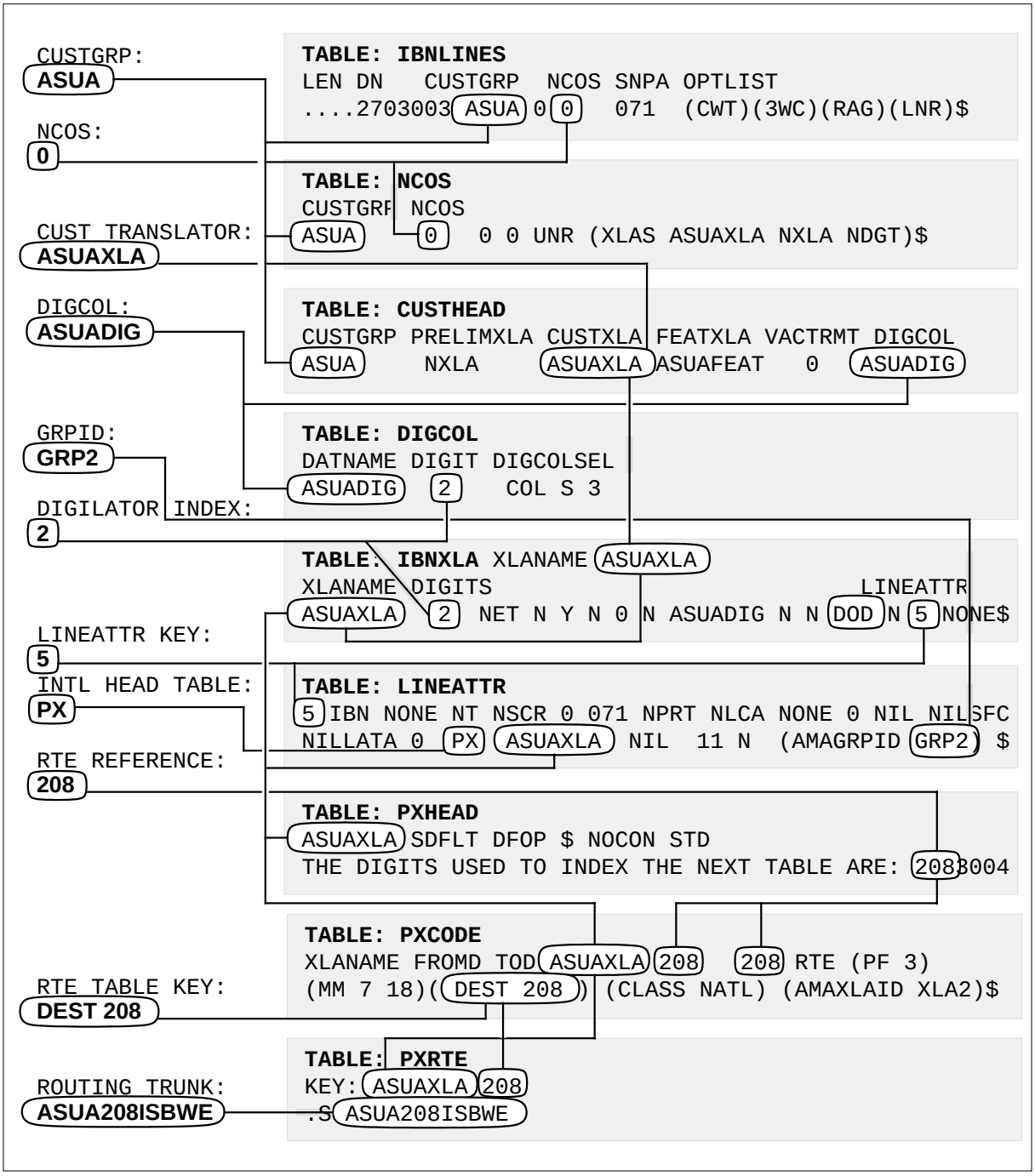
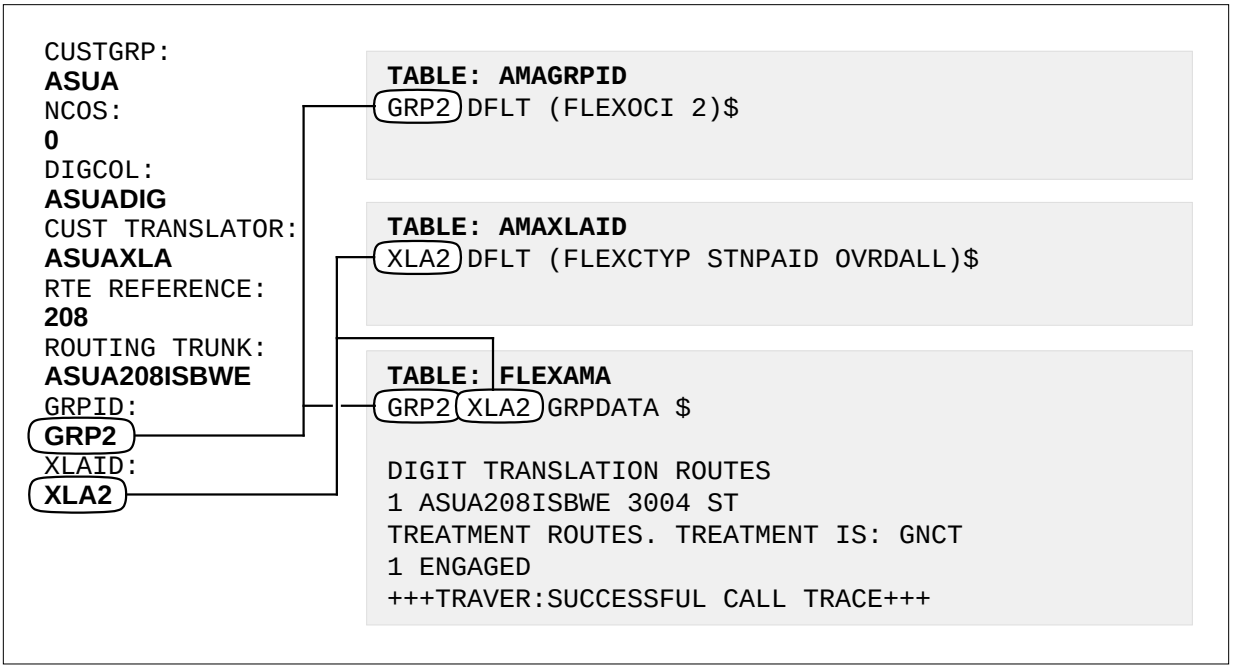


Figure 11-2 Universal translations flow (continued)



Before a call can be routed from MDC to Universal translations, the following data for the originating line must be established:

- customer group name
- one- to eight-character name to specify the following translators:
  - — customer group
  - — feature
  - — preliminary
  - — octothorpe
- basic and alternate digit plans
- customer group options
- network class of service (NCOS)

This information is defined in MDC tables IBNLINES, NCOS, CUSTHEAD, and DIGCOL.

In the 1st figure, the following values have been datafilled:

- The customer group name is ASUA.
- The customer translator is ASUAXLA.
- The NCOS is 0.

The routing tables IBNXLA and LINEATTR take the customer translator and the leading digit of the destination line and send the call to the appropriate Universal translations tables. In the above example, the destination number is 2083004, and its leading digit is 2. Call processing continues in table PXHEAD.

The Universal translations tables translate the destination digits and select the trunk over which the call will route. The selected trunk for digits 3004, determined in table PXRTE, is ASUA208ISBWE.

Functional groups for MDC to Universal routing

MDC to Universal routing has no functional groups.

MDC to Universal Routing

Ordering codes

MDC to Universal Routing has no ordering codes.

Release applicability

TL03 and up

Prerequisites

MDC to Universal Routing has no prerequisites.

Description

This section details the datafill required to route a call from Meridian Digital Centrex (MDC) to the Universal environment.

Operation

The dialed digits that originate from an MDC office must first be translated by the appropriate MDC tables.

Table IBNLINES determines the options assigned to the station making the call. This table associates a line equipment number (LEN) with a customer group name, a directory number (DN), and a network class of service (NCOS). Other features and their parameters are assigned in table IBNFEAT.

If the call originates from a business set or data unit, translations is initiated in tables KSETLINE and KSETFEAT.

The dialed digits are then translated by other MDC tables such as table NCOS, table CUSTHEAD, and table DIGCOL.

For more information on MDC translations, refer to the *Meridian Digital Centrex translations* section of this document.

In tables IBNXLA and LINEATTR, the digits are translated to make the crossover to Universal translations. If the dialed digits are not datafilled in table IBNXLA, table XLANAME is used.

In table IBNXLA, the translator is required if one or more access codes for a Digitone station has an asterisk (*) as a leading control digit. Otherwise, the translator is optional.

Table XLANAME stores the default data, including the allowable digilator range, for each translator. If no access code is found in table IBNXLA for a particular translator, default data from table XLANAME is used. If there is no

MDC to Universal Routing (continued)

default data for the operating company client group translator, the treatment specified in field VACTRMT of table CUSTHEAD is used. Table XLANAME controls the addition and deletion of translators in table IBNXLA. Each translator is assigned an alphanumeric one to eight character default value, default data, and an allowable digilator range.

The Insert National Numbering Group (INSNNG) option in tables IBNXLA and XLANAME provides a mechanism for the modification of dialed digits during the translations stage of call processing. For local originations, the INSNNG option allows a specified number of digits from an originator's DN, and a specified trunk access digit, to be added as a prefix to a translating number. Digit operatons performed by INSNNG are carried out after removing Access Digits, if NO-ACCODE_DIGITS is set. The option is available only in conjunction with the Network (NET) Translations Selector (TRSEL) and DOD Network Type (NET_TYPE) IBNXLA and XLANAME values. It is not compatible with the DMI option.

The Digit Manipulation Option of tables IBNXLA and XLANAME allows the specification of a table DIGMAN entry to be used in performing digit manipulation of a dialed number. Digit operations performed by the Digital Manipulation Index (DMI) are carried out after removing Access Digits, if NO-ACCODE_DIGITS is set. The option is available in conjunction with IBNXLA and XLANAME values TRSEL NET (NET_TYPE defined as DOD), and TRSEL ROUTE . It is not compatible with the INSNNG option.

Further digit translation occurs in the head, code, and route Universal translations tables beginning with table PXHEAD. Refer to the *Universal translations* section of this document for more information on Universal translations.

Translations table flow for MDC calls routed to Universal translations

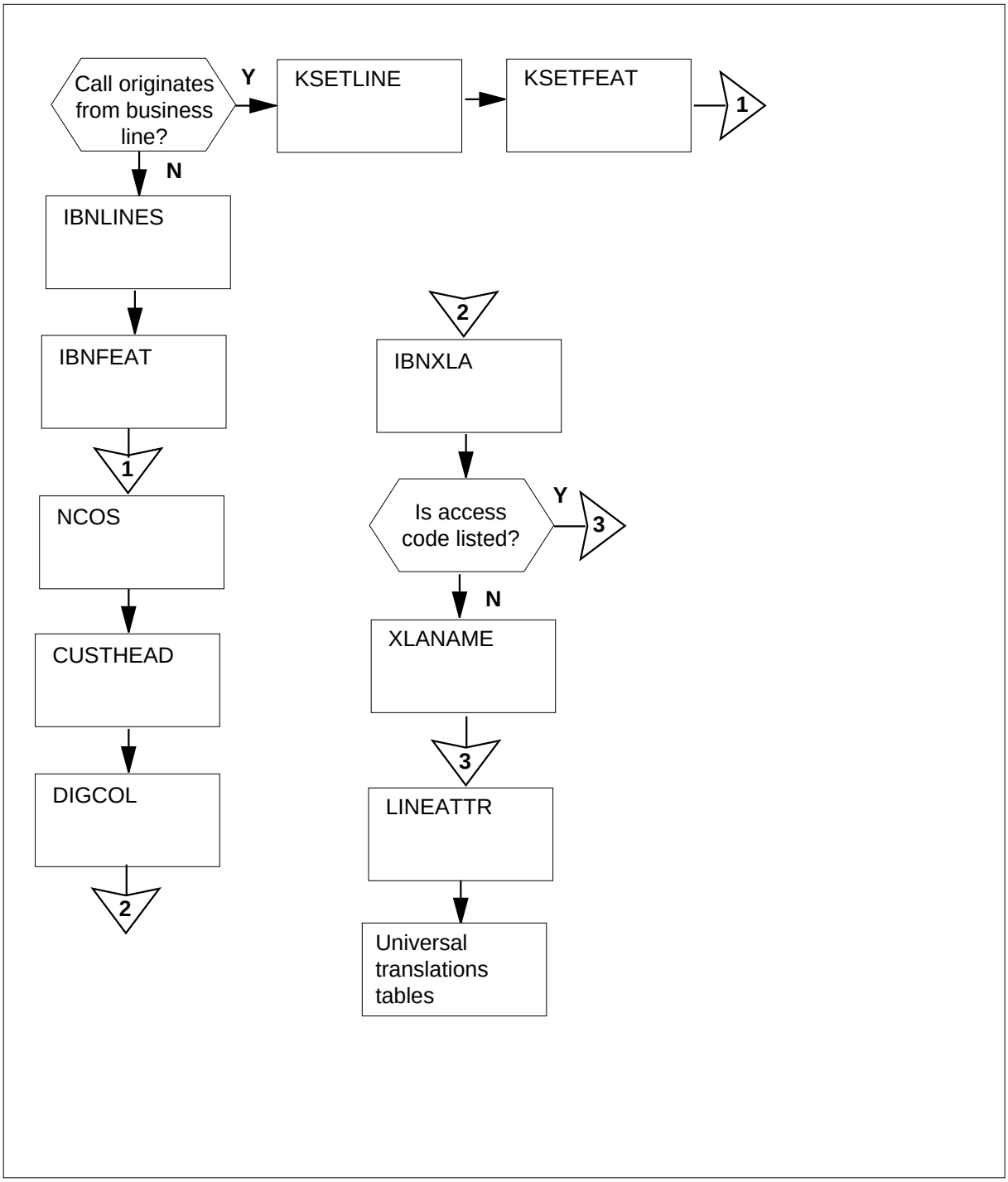
The MDC to Universal Routing translations tables are:

- XLANAME
- IBNXLA
- LINEATTR

The process of MDC calls routed to Universal translations is shown in the flowchart that follows.

MDC to Universal Routing (continued)

Table flow for MDC to Universal Routing



MDC to Universal Routing (continued)

The following table lists the datafill content used in the flowchart. In the example, the call originates from a single set and is routed through table IBNXLA. The dialed digits represent the DOD access code.

Datafill example for MDC to Universal Routing

Datafill table	Example data
IBNLINES	HOST 00 0 00 01 12 DT STN IBN 2363111 CUSTOMER1 0 0 628 (3WC) (RAG) (LNR) $
NCOS	CUSTOMER1 2 SEMIRT 4 0 $
CUSTHEAD	CUSTOMER1 CUST1XLA CUST1DIG NIL (VACTRMT 1) (EXTNCOS 0) (ACCT 4 N N) (FETXLA CUST1FET) (PLMXLA EMERGXLA) (AUTH UKC21PART Y N) (SUPERCNF) (ACR AUTH 0) (ACRANN INVAUTH) (OCTXLA CUST1OCT) (CPK N 100) $
DIGCOL	CUST1DIG 1 RPT
XLANAME	CUST1XLA $ 9
IBNXLA	CUST1XLA 9 NET N N Y 1 N NDGT N N DOD N 3 NONE $
LINEATTR	3 IBN NONE NSCR 0 001 NPRT NLCA NONE 0 NIL NILSFC NILLATA 0 PX CUST1XLA NIL 11 N $
PXHEAD	CUST1XLA 1 (T OFRT 16) $

The following table lists the datafill content used in the flowchart. In the example, the call originates from a business set, and is routed through table XLANAME.

Datafill example for MDC to Universal Routing (Sheet 1 of 2)

Datafill table	Example data
KSETLINE	REM1 00 0 00 08 12 DN Y 2703600 ASUA 0 0 071 (38C) (MCH) (RAG) (PRK) (MSB) (EBO) (CPU) (LNRA) $
NCOS	ASUA 0 UNR 0 0 (XLAS ASUAXLA NXLA NDGT) $
CUSTHEAD	ASUA ASUAXLA ASUADIG NIL (VACTRMT 0) (EXTNCOS 0) (ACCT 3 N N) (FETXLA ASUAFEAT) (AUTH MCL0PART N N) (SUPERCNF) $
DIGCOL	ASUADIG 1 COL S 1
XLANAME	ASUAXLA (NET N N N 0 N AUTO N N DOD N 14 NONE $) $ 9

MDC to Universal Routing (continued)

Datafill example for MDC to Universal Routing (Sheet 2 of 2)

Datafill table	Example data
LINEATTR	14 IBN NONE NT NCSR 0 073 NPRT NLCA NONE 0 NIL NILSFC NILLATA 0 PX CG4 NIL 00 N $
PXHEAD	CG4 SDFLT NODFOP CON STD

Limitations and restrictions

The following limitations and restrictions apply to MDC to Universal Routing:

- The entry in subfield XLANAME in table LINEATTR must be PX.
- A maximum of 18 digits can be dialed.

Billing

For information on billing, refer to the *Bellcore format AMA translations* section of this document.

Datafilling office parameters

The following table shows the office parameters used by MDC to Universal Routing. For more information about office parameters, refer to *Office Parameters Reference Manual.*

Office parameters used by MDC to Universal Routing (Sheet 1 of 2)

Table name	Parameter name	Explanation and action
OFCVAR	SO_PROMPT_ FOR_LTG	Enter Y if the Service Order System (SERVORD) is required to echo cabling information on an operator's hard-copy terminal. Enter N if this function is not required. The default value is N.
OFCENG	NUM_IBN_IXLA_ EXT_BLOCKS	Enter a number from 0 to 3200 to specify the maximum number of MDC world system (international) translation extension blocks required for the engineering interval. The value entered here determines the maximum number of calls that can route to Universal translations from MDC at one time. This value must equal the maximum number of outgoing MDC (trunk group type IBNTO) trunks, selected through automatic route selection (ARS), that carry international direct distance dialing (IDDD). This is the traffic that can be reached when translating through table PXHEAD.

MDC to Universal Routing (continued)

Office parameters used by MDC to Universal Routing (Sheet 2 of 2)

Table name	Parameter name	Explanation and action
	NCCBS	Enter a number from 0 to 65535 to specify the number of call condense blocks (CCB) required for the switching unit. A CCB is a software register associated with a call throughout its duration, containing information such as the identity of the calling and called appearances. The default value is 80.
	NEMECCBS	This parameter specifies the number of extended call condense blocks (ECCB) required. The minimum value is 1 and the maximum is the value of NCCBS. This parameter is read-only and its value cannot be changed. It can be used to determine how many ECCBs have been provided. The default value is 65.

Datafill sequence

The following table lists the tables that require datafill to implement MDC to Universal Routing. The tables are listed in the order in which they are to be datafilled.

Datafill tables required for MDC to Universal Routing

Table	Purpose of table
XLANAME	The translation name table stores the default data for each translator.
IBNXLA	The Integrated Business Network (IBN) translation table defines the dialing plan for each customer group.
LINEATTR	The line attribute table assigns line attributes to IBN stations, attendant consoles, and regular lines of a customer group.

Datafilling table XLANAME

The following table shows the datafill specific to MDC to Universal Routing for table XLANAME. Only those fields that apply directly to MDC to

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

Datafilling table XLANAME

Field	Subfield or refinement	Entry	Explanation and action
XLANAME		alphanumeric (1 to 8 characters)	Translator name. Enter the name that is assigned to the customer, feature, or preliminary translator.
DEFAULT		see subfield TRSEL in table IBNXLA	Default data. This field is a vector that consists of translation selector subfield TRSEL and refinements dependent on this selector. It is identical to field RESULT in table IBNXLA. See table IBNXLA for a full description of field RESULT and refinements.

Datafill example for table XLANAME

The following example shows sample datafill for table XLANAME.

MAP display example for table XLANAME

```
XLANAME     DEFAULT                                          MAXDIG
_____________________________________________________________________
JALXLA     (NET N N N 0 N POTS N Y DOD N 0 NONE $) $    9
```

Datafilling table IBNXLA

The following table shows the datafill specific to MDC to Universal Routing for table IBNXLA. Only those fields that apply directly to MDC to Universal

MDC to Universal Routing (continued)

Routing 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	alphanumeric (1 to 8 characters)	Translator name. Enter the name assigned to the translator.
	DGLIDX	vector of up to 18 digits	Digilator index. Enter the digit or digits assigned as an ambiguous code. The range of this field depends on field MAXDIG in table XLANAME. The allowable values for the digilator portion of DGLIDX of table IBNXLA are as follows: *MAXDIG value* *IBNXLA digilator values* 9 Digits 0 to 9 and B Digits 0 to 9C to CF Digits 0 to 9 and B to F The allowable digit range for table IBNXLA digilator values is determined for each translator.
RESULT			Result. This field consists of subfield TRSEL and its refinements.
	TRSEL	ROUTE orNET	Translation selector. Enter NET or ROUTE. Complete subfields ACR, SMDR, NO_ACCODE_DIGITS, SECOND_DIAL_TONE, DGCOLNM, CRL, INTRAGRP, NETWORK AREA, and NETOPTNS. If entry is NET, datafill NET_TYPE.
	NET_TYPE	GEN, DOD, or ESN	Network type. For a general network, enter GEN and complete subfield OPTIONS.If the digits dialed represent the DOD access code, enter DOD and complete subfields SMDRB, LINEATTR, and TOLL_RESTRICTION.If the digits dialed represent the ESN access code, enter ESN and complete subfields SMDRB and LINEATTR.
	NETOPTNS	see subfields	Network options. For MDC to Universal routing the relevant subfield is NETRTOPT.

MDC to Universal Routing (continued)

Datafilling table IBNXLA (Sheet 2 of 2)

Field	Subfield or refinement	Entry	Explanation and action
	NETRTOPT	DMI	Digit manipulation index. Enter DMI to permit the manipulation of dialed digits during translation. Datafill refinement DIGMAN_INDEX. The digit operations performed by this option are done after the removal of access code digits as specified in field NO_ACCODE_DIGITS. When the DMI option is used, index validation is not performed by table DIGMAN. Network routing option DMI is incompatible with network routing option INSNNG.
	DIGMAN_INDEX	numeric (0 to 32 767)	If network routing option DMI is selected, enter a number to serve as a key to table DIGMAN. Digit manipulation is performed as specified by the corresponding tuple in table DIGMAN. An entry of 0 indicates no digit manipulation.
	NETRTOPT	INSNNG	International numbering group. Enter INSNNG to permit the prefixing to the translating number of a specified number of digits from an originator's DN and, optionally, a trunk access digit. This option applies to local (non-trunk) agents. Datafill refinements INSNNG_PREFIX and TRUNK_ACCESS_DIG. The digit operations performed by this option are done after the removal of access code digits as specified in field NO_ACCODE_DIGITS. ***Note:*** Network routing option INSNNG is incompatible with network routing option DMI.
	INSNNG_PREFIX	numeric (0 to 11)	*National numbering group prefix digits* If network routing option INSNNG is selected, enter the number of leading digits that are copied from the originator's DN and prefixed to the translating number. If public network formatting is datafilled for the originator in table DNGRPS, the DN is formatted prior to being used to obtain prefix digits.

MDC to Universal Routing (continued)

Datafill example for table IBNXLA

The following example shows sample datafill for table IBNXLA. In the example, the digits represent the DOD access code. The index into table LINEATTR for this code is 100.

MAP display example for table IBNXLA

```
KEY
RESULT
_____________________________________________________________
JALXLA 050
NET N Y N 1 Y NDGT Y N DOD N 100 NONE $
```

Datafilling table LINEATTR

The following table shows the datafill specific to MDC to Universal Routing for table LINEATTR. Only those fields that apply directly to MDC to Universal Routing are shown. For a description of the other fields, refer to the *data schema* section of this document.

Datafilling table LINEATTR

Field	Subfield or refinement	Entry	Explanation and action
LNATTIDX		0 to 31 999	Line attribution Index. Enter the index into table LINEATTR.
LCC		IBN	Line class code. Enter IBN.
MDI		0 to 1023	Metering data index. Enter 0.
IXNAME			International translations system start. This field contains subfield XLASYS and its refinement XLANAME.
	XLASYS	PX	International translations system. Enter PX and complete subfield XLANAME.
	XLANAME	alphanumeric (1 to 8 characters)	International translations name. Enter the index into PXHEAD.

Datafill example for table LINEATTR

The following example shows sample datafill for table LINEATTR.

MDC to Universal Routing (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
_____________________________________________________________
100         IBN   NONE      NT   NSCR   0   103 NPRT
NLCA    NONE       0        NIL     NILSFC  NILLATA    0
PX VPNXLA   NIL       00            N            $
```

Translation verification tools

The following example shows the output from TRAVER when it is used to verify MDC to Universal Routing.

MDC to Universal Routing (continued)

TRAVER output example for MDC to Universal Routing

```
TRAVER L 6320630 611020631 B


TABLE IBNLINES
HOST 06 1 00 01 0 DT STN IBN 6320630 LONS632 0 1  103 (3WC) $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE NCOS
LONS632 1 0 0 $ (XLAS LONSXLA FEATXLA NDGT) $
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND
  DIGCOL
LONS632 NXLA LONSXLA FEATXLA 0 NDGT
TABLE DIGCOL
NDGT specified: digits collected individually.
TABLE IBNXLA: XLANAME LONSXLA
LONSXLA 6 NET N Y N 0 Y NDGT Y N DOD N 100 NONE
TABLE DIGCOL
NDGT specified: digits collected individually.
TABLE LINEATTR
100 IBN NONE NT NSCR 0 103 NPRT NLCA NONE 0 NIL NILSPFC NILLATA 0 PX
  VPNXLA NIL 00 N $
TABLE PXHEAD
VPNXLA DFLT TRMT (OFC VACT) $ DFOP (CLASS LCL) $ NOCON F
THE DIGITS USED TO INDEX THE TABLE ARE:           611020631
TABLE PXCODE
VPNXLA 61 61 RTE (PF2) (MM 2 10) DEST 2) (CLASS NATL) $
```

—continued—

MDC to Universal Routing (end)

TRAVER output example for MDC to Universal Routing

```
TABLE PXRTE
KEY: VPNXLA 2
   T IBNRTE 3
        TABLE IBNRTE 3
          3 S Y Y N N LONSATUPA1
             S Y Y N N LONSATUPB1
     EXIT TABLE IBNRTE
EXIT TABLE PXRTE


+++TRAVER: SUCCESSFUL CALL TRACE +++



DIGIT TRANSLATION ROUTES

1 LONSATUPA1   102631    ST
1 LONSATUPB1   102631    ST

TREATMENT ROUTES.  TREATMENT IS :GNCT
1 *OFLO
2 LKOUT
```

–end–

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