Critical Release Notice

Publication number: 297-5161-022
Publication release: Standard 11.04

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

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

Bookmark Color Legend

Black: Applies to new or modified content for the baseline NTP that is valid through the current release.

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

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

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

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

Attention!
Adobe® Acrobat® Reader™ 5.0 or higher is required to view bookmarks in color.

Publication History

December 2004

Standard release 11.04 for software release SN07 (DMS).

Volume 1

Modified Chapter 2 for CR Q0823552-02.

Volume 2

Modified Chapter 40 and Chapter 43 for CR Q0823552-02.

September 2004

Standard release 11.03. This issue is valid for software release SN07 (DMS), although no changes have been made for SN07 (DMS) features.

Changes with respect to standard release 11.02 are as follows:

Volume 1

Chapter 4, Agent support modified according to CR Q00893694

Volume 2

No changes

Volume 3

Chapter 13, OM group AIN modified according to CR Q00765666.
Chapter 14, OM group AINICOFF modified according to CR Q00765666.
Chapter 15, OM group AINICSUB modified according to CR Q00765666.
Chapter 17, OM group AINOGOFF modified according to CRs Q00765666 and Q00527425-04
Chapter 19, OM group AINOGSB2 modified according to CRs Q00765666 and Q00527425-04
Chapter 21, AIN message tracing tool, 21.3 Supported messages and parameters, Table 913 modified according to CR Q00527425-04.
Chapter 23, TSTQUERY tool, 23.3 Supported messages and parameters, Table 933 modified according to CR Q00527425-04.

March 2004

Standard release 11.02 for software release SN06 (DMS). Changes were made to the following sections:

<u>Volume 1</u>

Chapter 2, Development Summary
Chapter 3, Call Model
Chapter 4, Agent support
Chapter 5, Functional overview
Chapter 6, Generic SSP procedures
Chapter 8, Originating call model events
Chapter 9, Terminating call model triggers
Chapter 14, STR processing with an SSP resource
Chapter 16, STR connection to a remote IP
Chapter 17, Connect_to_Resource
Chapter 19, Error handling
Chapter 20, Limitations
Chapter 22, AIN/DMS-100 interactions (A and B)
Chapter 23, AIN/DMS-100 interactions (C)
Chapter 24, AIN/DMS-100 interactions (C)

<u>Volume 2</u>

Chapter 1, AIN/DMS-100 interactions (I to R)
Chapter 2, AIN/DMS-100 interactions (S to Z)
Chapter 4, Other interactions
Chapter 8, Engineering considerations for PRI looparounds
Chapter 10, Data schema
Chapter 11, Software optionality control
Chapter 12, Datafilling for the general office
Chapter 14, Trigger group provisioning interface
Chapter 15, Trigger item provisioning interface
Chapter 39, Trunk Group Trigger
Chapter 41, Analyze_Route response
Chapter 46, Forward_Call response

<u>Volume 3</u>

Chapter 6 Billing
Chapter 7 AMA structures and modules
Chapter 17 OM group AINOGOFF
Chapter 19 OM group AINOGSB2
Chapter 21 AIN message tracing tool
Chapter 23 TSTQUERY tool
Chapter 25 Other CI commands for AIN
Chapter 49 Game100

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297-5161-022

DMS-100 Family

Advanced Intelligent Network Service Enablers

Service Implementation Guide Volume 2 of 3

SN06 (DMS) Standard 11.02 March 2004

NORTEL NETWORKS™

DMS-100 Family

Advanced Intelligent Network Service Enablers

Service Implementation Guide Volume 2 of 3

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Contents (Volume 2 of 3)

Master Table of Contents

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About this document

When to use this document

This document is the primary source of information for the DMS-100 SSP AIN Service Enablers product.

The document is a response to a customer request that Nortel Networks consolidate descriptive information into one document. This document maintains the nature of the documents most frequently used in the past, especially those related to provisioning the AIN Service Enablers SSP for triggers, responses, and post-response translations.

Electronically stored documents

For each electronically stored version of this document, there is one electronic master copy that is accessible to all approved users. All other copies, hard or soft, are considered uncontrolled.

How to check the version and issue of this document

The version and issue of the document are indicated by numbers, for example, 01.01.

The first two digits indicate the version. The version number increases each time the document is updated to support a new software release. For example, the first release of a document is 01.01. In the next software release cycle, the first release of the same document is 02.01.

The second two digits indicate the issue. The issue number increases each time the document is revised but released again in the same software release cycle. For example, the second release of a document in the same software release cycle is 01.02.

To determine the version of this document that applies to the software in your office and how documentation for your product is organized, check the release information in *Product Documentation Directory*, NTP 297-8991-001.

Structure of this document

The document is structured as follows:

Volume 1, Part I: Introduction. This part provides an overview of the AIN Service Enablers product, including the call model and agent support. This part also provides a product developments summary since NA007.

Volume 1, Part II: Functional description: This part provides a functional overview of:

- AIN Service Enablers
- the generic SSP procedures
- supported triggers and events
- the Send_To_Resource interface to the Intelligent Peripheral (STR-IP)
- SCP messaging
- use of AIN Service Enablers for toll-free service

Volume 1, Part III: Interactions. This part lists and describes general trigger and event interactions, and AIN Service Enablers interactions with AIN Essentials, STR-IP, toll-free service, and Automatic Code Gapping (AGC).

Volume 2, Part I: Planning and engineering. This part describes AIN hardware requirements and outlines the technical specification such as standards, performance measurements, capacity allocation, messaging requirements, and error handling.

Volume 2, Part II: Provisioning. This part contains the provisioning information that was formerly in the Provisioning Cookbook and the Response Translations Guide. These documents were incorporated into the same format for this document. The chapters in this section provide examples of trigger, response, and post-response translations datafill.

Volume 3, Part 1: This part describes Automatic Message Accounting (AMA) as it applies to AIN and illustrates the module codes.

Volume 3, Part II: Operations, administration and maintenance. This part describes OMs and logs that are supported by AIN Service Enablers, and also describes the network management feature called Automatic Call Gapping. Several chapters in this part provide information on the command interface (CI) tools for this product.

Volume 3, Part III: Requirements. This part presents the mapping of AIN Service Enablers to the Bellcore specifications, and describes some elements of product support.

Document scope

This document describes AIN Service Enablers in terms of Functional Sets (FS) and Functional Subsets (FSS).

FS and FSS example

The following example illustrates how FS and FSS definitions help describe AIN Service Enablers functionality.

The Network_Busy Event FS represents the function of a particular event, the Network_Busy (NB) event, and consists of the following FSSs:

- NB Event Detection and Processing FSS, to let the SSP detect the event
- Network_Busy Event Request Message and Processing FSS, to let the SSP generate a query message to the SCP
- Generic Analyze_Route Message and Processing FSS, to let the SSP process one of the possible responses from the SCP
- Disconnect Message and Processing FSS, to let the SSP process another of the possible responses from the SCP

Notice that the NB Event Detection and Processing FSS is specific to the FS. It provides an integral unit of AIN functionality that enables a unique service-related feature.

Other FSSs, such as the Generic Analyze_Route Message and Processing FSS and the Disconnect Message and Processing FSS, are used by other FSs.

FS and FSS definitions

FSs and FSSs are groups of functionally associated requirements for the Service Switching Point (SSP), the SSP/SCP interface, and the SSP/IP interface. The elements of an FSS or FSSs contribute to a common purpose or action (functionality). FS and FSS definitions comply with Bellcore documents GR-1298, GR-1299 and GR-1129, as well as toll-free service document GR-2892.

An FSS possesses an integral unit of AIN functionality that either enables a unique service-related feature on an SSP, or provides a common base for other functional groups. Each FSS is a group of specifically related Bellcore requirements.

An FS consists of several FSSs and represents a stand-alone function, such as an event, or a building-block used to create a stand-alone function, such as a generic message processing.

Document structure and organization

Major sections or chapter titles in this document comply with the FS that is being implemented. Subsections comply to the FSSs within that FS. Subsections can also contain additional information that is not included in the FSSs.

Structure and organization example

In keeping with FS definitions, this document describes events in two chapters; one for the originating call model and one for the terminating call model.

Section 8.3 , "Network_Busy event," on page 383 describes the Network_Busy event, which implements the Network_Busy Event FS. Chapter 8 contains one section for each event it describes. Since each event implements an FS, the chapter has a section for each FS.

The Network_Busy event section contains six subsections:

- Arming the Network_Busy event
- NB event detection and processing
- Network_Busy event request message and processing
- Analyze_Route message and processing
- Disconnect message and processing
- Send_To_Resource message and processing

Each subsection represents either an FSS that makes up the FS, or additional information.

References in this document

The following documents are referred to in this document:

- 297-1001-455, *Office Parameters Reference Manual (volumes 1, 2)*
- 297-1001-825, *DMS-100 Glossary*
- 297-1411-350, *E911 Emergency Service*
- 297-1421-010, *Subscriber Services Product Guide*
- 297-2051-104, *MDC SMDI Setup and Operation*
- 297-2401-360, *ISDN Primary Rate Interface Translation Guide*
- 297-5161-021, *Advanced Intelligent Network Essentials Service Implementation Guide*
- 297-5161-510, *AIN Release 0.1 SSP Complete Maintenance Guide*
- 297-8003-350, *North American DMS-100 Translations Guide*
- 297-8003-808, *North American DMS-100 Service Order Reference Manual*
- 297-8003-814, *North American DMS-100 Operational Measurements Reference Manual*
- 297-8003-840, *North American DMS-100 Log Reports Reference Manual*

- 297-8003-855, *NA DMS-100 Office Parameters Reference Manual*
- 297-8981-021, *DMS-100/200 LRN-LNP Service Implementation Guide*

What precautionary messages mean

The types of precautionary messages used in Nortel Networks documents include attention boxes and danger, warning, and caution messages.

An attention box identifies information that is necessary for the proper performance of a procedure or task or the correct interpretation of information or data. Danger, warning, and caution messages indicate possible risks.

Examples of precautionary messages follow.

ATTENTION Information needed to perform a task

> **ATTENTION**
> When the unused DS-3 ports are not de-provisioned before a DS-1/VT Mapper is installed, the DS-1 traffic will not be carried through the DS-1/VT Mapper, even though the DS-1/VT Mapper is properly provisioned.

CAUTION Possibility of service interruption or degradation

> **CAUTION**
> Possible loss of service
> Before continuing, confirm that you are removing the card from the inactive unit of the peripheral module. Subscriber service is lost when you remove a card from the active unit.

DANGER Possibility of personal injury

> **DANGER**
> **Risk of electrocution**
> Do not open the front panel of the inverter unless fuses F1, F2, and F3 have been removed. The inverter contains high voltage lines. Until the fuses are removed, the high voltage lines are active, and you risk being electrocuted.

How commands, parameters, and responses are represented

Commands, parameters, and responses in this document conform to the following conventions.

Input prompt (>)

An input prompt (>) indicates that the information that follows is a command:

>BSY

Commands and fixed parameters

Commands and fixed parameters that are entered at a MAP terminal are shown in uppercase letters:

>BSY CTRL

Variables

Variables are shown in lowercase letters:

>BSY CTRL ctrl_no

The letters or numbers that the variable represents must be entered. Each variable is explained in a list that follows the command string.

Responses

Responses correspond to the MAP display and are shown in a different way:

FP 3 Busy CTRL 0: Command request has been submitted.

FP 3 Busy CTRL 0: Command passed.

The following excerpt from a procedure shows the command syntax used in this document:

Busy the CTRL on the inactive plane by typing the following

>BSY CTRL ctrl_no

and then press the Enter key.

where

ctrl_no is the number of the CTRL (0 or 1)

Example of a MAP response:

```
FP 3 Busy CTRL 0: Command request has been submitted.
FP 3 Busy CTRL 0: Command passed
```

1 AIN/DMS-100 interactions (I to R)

	WARNING **Limited information source** The status of each feature (documented in the interactions chapters) is provided as an indicator. Please read all information associated with each feature.

AIN interacts with many DMS-100 switch features. The purpose of this chapter is to document interactions between various AIN functionalities (for example, intra-AIN interactions). The feature interactions chapters are arranged alphabetically into five chapters. This chapter describes the interactions for features that begin with the letters I through R.

> ***Note:*** See Chapter 21: “AIN interactions introduction” on page 717 to learn how to use this information.

1.1 Intercept features

The following section describes interactions with flexible intercept (FLEXI).

1.1.1 Flexible intercept

FLEXI allows for the automatic rerouting of calls that cannot be completed because of equipment problems, imposed restrictions, or dialing irregularities. Calls are routed to the attendant, a tone, or an announcement.

1.1.1.1 Trigger interactions with FLEXI

Table 1 provides trigger interactions with FLEXI.

Table 1 Trigger interactions with FLEXI

Trigger	Status	Interactions
AFR	S	After hitting this originating trigger with an Analyze_Route to a FLEXI number, the call is routed to the FLEXI number.
CDP	S	
International	S	
N11	S	
O_CPB	UU	Not applicable
O_NoA	UU	
OHD	S	After hitting this originating trigger with an Analyze_Route to a FLEXI number, the call is routed to the FLEXI number.
OHI	S	After the call encounters the Off-Hook_Immediate originating trigger with an Analyze_Route response to a FLEXI number, the call goes to treatment specified by FLEXI.
One_Plus_Prefix	S	After hitting this originating trigger with an Analyze_Route to a FLEXI number, the call is routed to the FLEXI number.
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	UU	Not applicable
T_NoA	UU	

Table 1 Trigger interactions with FLEXI (Continued)

Trigger	Status	Interactions
TAT	PS	The TAT trigger is not encountered when it is an IBN line originating the call. When trying to dial a FLEXI number that has TAT with an Authorize Termination or Forward Call response, the call fails and the call goes to the treatment specified by FLEXI. The TAT trigger is encountered, however, when a 1FR line or a RES line originates the call. When a RES line calls a FLEXI number with the TAT trigger with a Forward_Call response on it, the TAT is encountered and the call is forwarded successfully to a third, non-FLEXI DN.
TRA	UU	Not Applicable. The FLEXI is for calls that cannot be completed. FLEXI cannot encounter TRA trigger.
TKTERM	N/A	

1.1.1.2 Event interactions with FLEXI

Table 2 provides event interactions with FLEXI.

Table 2 Event interactions with FLEXI

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.2 Intercom features

This section describes interactions with intercom features. See Table 180 “DMS-100 features” on page 720 for a complete list of intercom features.

1.2.1 Group intercom

The group intercom (GIC) feature allows members of a given GIC group to call other group members by dialling their intercom member number. This number consists of fewer digits than a directory number (DN). Intercom groups can be configured in four different sizes.

The GIC feature can also be assigned to RES agents making a new intercom group. Within this intercom group the intercom members call other intercom members by dialling the respective intercom member number.

1.2.1.1 Trigger interactions with GIC

Table 3 provides trigger interactions with GIC.

Table 3 Trigger interactions with GIC

Trigger	Status	Interactions
AFR	PS	These triggers are not encountered on a GIC call originating from a non-500/2500 set.
CDP	PS	
International	PS	
N11	PS	
O_CPB	UU	Not applicable
O_NoA	UU	
OHD	PS	This trigger is not encountered on a GIC call originating from a non-500/2500 set.
OHI	S	When an Off-Hook_Immediate trigger is datafilled against a 500/2500 set with GIC assigned, the Off-Hook_Immediate trigger takes precedence.
One_Plus_Prefix	PS	These triggers are not encountered on a GIC call originating from a non-500/2500 set.
Operator_Services	PS	
PFC	PS	
PRIB	PS	
SDS	PS	
SFC	PS	
SIT	PS	
Specified_Carrier	PS	
T_Busy	UU	Not applicable
T_NoA	UU	

Table 3 Trigger interactions with GIC (Continued)

Trigger	Status	Interactions
TAT	PS	When making a group intercom (GIC) call, trigger Termination_Attempt can be encountered when the following criteria is met: • AIN is active in the office. • The terminating GIC agent is a 500/2500 set with Termination_Attempt assigned. • The GICNOCFW option is not assigned to the customer group.
TRA	UU	Trigger TRA cannot be encountered for a call made using GIC.
TKTERM	N/A	

1.2.1.2 Event interactions with GIC

Table 4 provides event interactions with GIC.

Table 4 Event interactions with GIC

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.2.1.3 Other interactions with GIC

Table 5 provides other interactions with GIC.

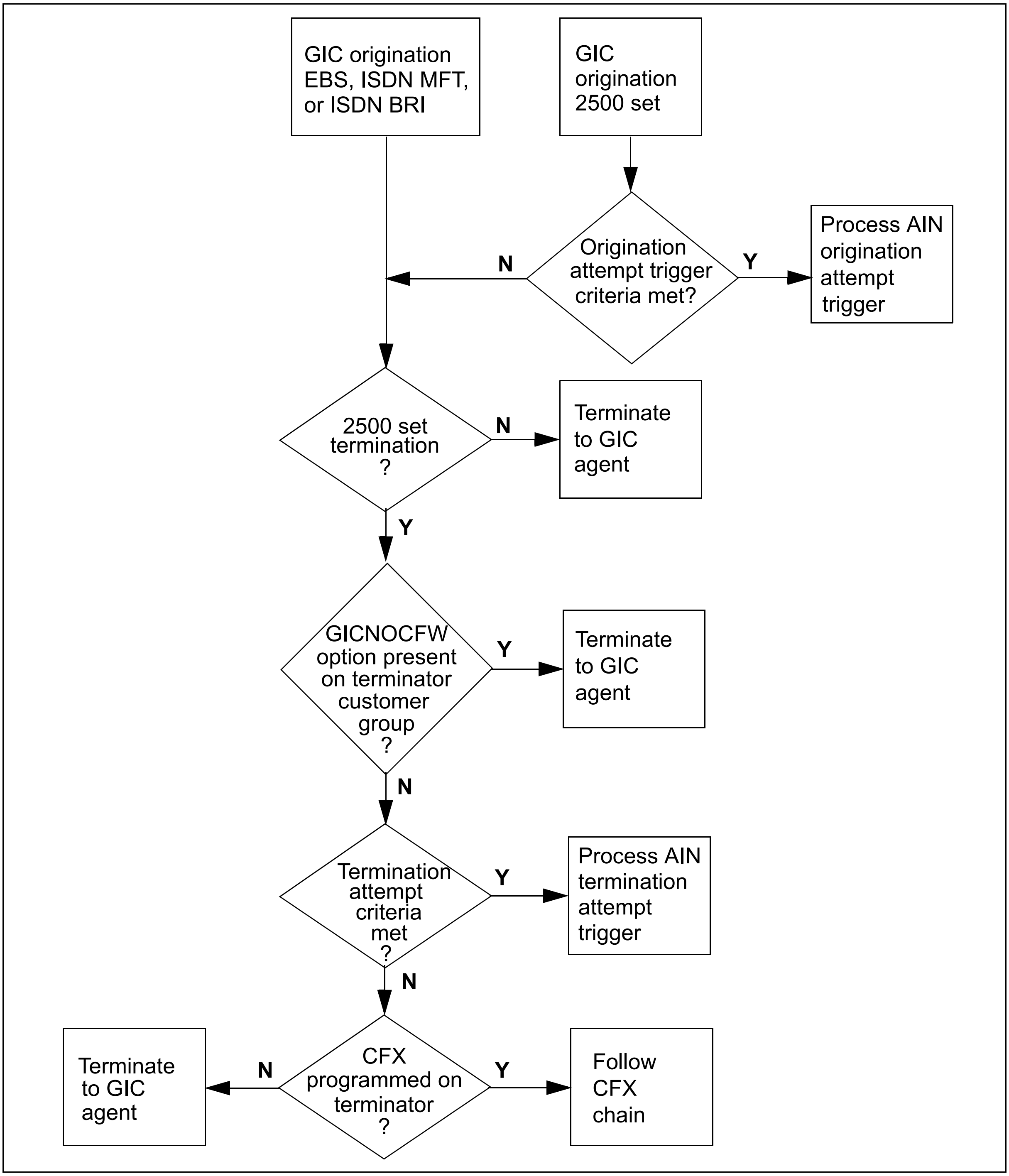
Table 5 Other interactions with GIC

Description	Status	Interactions
Forward_Call	PS	When a Forward_Call response is received from a GIC terminating agent, the call leaves the GIC environment, and is able to encounter the Info_Analyzed, Network_Busy and, Termination_Attempt TDPs as a normal call would.
DisplayText	PS	When an Authorize_Termination response message with parameter DisplayText is received, the display text information is delivered to an IBN 2500 set.
Collect_Information	UU	When CollectedDigits contains a GIC service code, then the SSP sends the call to FNAL treatment.

1.2.1.4 Miscellaneous information for GIC

See Figure 1 “GIC interactions with AIN” on page 47.

Figure 1 GIC interactions with AIN



1.2.2 Group intercom all call

The following section describes interactions with group intercom all call (GIAC).

1.2.2.1 Trigger interactions with GIAC

No triggers are encountered when group intercom all call (GIAC) is activated.

1.2.2.2 Event interactions with GIAC

The GIAC feature does not hit any AIN triggers, therefore, it cannot arm or detect any events.

1.2.3 MBS intercom

MBS intercom allows an end user, upon pressing the intercom (ICM) key, to directly terminate on a predetermined Meridian business set (MBS).

1.2.3.1 Trigger interactions with MBS intercom

No triggers are encountered on ICM calls.

1.2.3.2 Event interactions with MBS intercom

The ICM feature does not hit any AIN triggers, therefore, it cannot arm or detect any events.

1.2.4 Single party revertive calling

Single party revertive calling (INT) allows subscribers to communicate with people located at extension phones.

The following section describes interactions with single party revertive calling (INT).

1.2.4.1 Trigger interactions with INT

Table 6 provides trigger interactions with INT.

Table 6 Trigger interactions with INT

Trigger	Status	Interactions
AFR	S	The INT feature takes place in the terminating call model after the termination_Attempt TDP. Therefore, these triggers can be hit and is independent of INT. Once the INT feature is activated, no triggers are hit.
CDP	S	
International	S	
N11	S	
O_CPB	UU	Not applicable
O_NoA	UU	

Table 6 Trigger interactions with INT (Continued)

Trigger	Status	Interactions
OHD	S	The INT feature takes place in the terminating call model after the termination_Attempt TDP. Therefore, these triggers can be hit and are independent of INT. Once the INT feature is activated, no triggers are hit.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	UU	Not applicable
T_NoA	UU	
TAT	S	The INT feature takes place in the terminating call model after the termination_Attempt TDP. Therefore, this trigger can be hit and is independent of INT. Once the INT feature is activated, no triggers are hit.
TRA	UU	Not applicable
TKTERM	N/A	

1.2.4.2 Event interactions with INT

Table 7 provides event interactions with INT.

Table 7 Event interactions with INT

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.2.4.3 Other interactions with INT

Table 8 provides other interactions with INT.

Table 8 Other interactions with INT

Description	Status	Interactions
Continue	S	INT processing is encountered while processing the response from the SCP (either Analyze_Route, Forward_Call, Continue, or Authorize_Termination). When INT is being activated (that is, when the response directs the call to the same line as the originator) following an Analyze_Route or Forward_Call response, the call is sent to FNAL treatment. Authorize_Termination and Continue responses do not affect the functionality of INT. When a Continue response follows an Analyze_Route or Forward_Call response, FNAL treatment is not encountered, and the call terminates correctly.
Analyze_Route	UU	
Forward_Call	UU	
Authorize_Termination	S	
DisplayText	S	INT call setup does not encounter AIN triggers; therefore, AIN DisplayText is not displayed.

1.3 Interswitch call trace and call forwarding enhancement

The interswitch call trace enhancements feature is an enhancement to the existing interswitch call trace (ICT) capability for signalling system no. 7 (SS7). The ICT feature generates a log that contains the calling party's number, along with other call information for the purpose of tracing harassing calls at the request of the subscriber. With the ICT enhancement, it is now possible to include the indication that another party was involved because of redirection, and who the other party is.

1.3.1 Trigger interactions with ICT

Table 9 provides trigger interactions with ICT.

Table 9 Trigger interactions with ICT

Trigger	Status	Interactions
AFR	UU	Not applicable
CDP	UU	
International	UU	
N11	UU	
O_CPB	UU	
O_NoA	UU	
OHD	UU	
OHI	UU	
One_Plus_Prefix	UU	
Operator_Services	UU	
PFC	UU	
PRIB	UU	
SDS	UU	
SFC	UU	
SIT	UU	
Specified_Carrier	UU	
T_Busy	UU	
T_NoA	UU	
TAT	UU	
TRA	UU	
TKTERM	UU	

1.3.2 Event interactions with ICT

Table 10 provides event interactions with ICT.

Table 10 Event interactions with ICT

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.3.3 Other interactions with ICT

Table 11 provides other interactions with ICT.

Table 11 Other interactions with ICT

Description	Status	Interactions
Analyze_Route	U	The ICT enhancement feature does not support AIN - this feature cannot detect when a call has been redirected due to AIN (that is, an Analyze_Route response or Forward_Call response).
Forward_Call		
parameter CarrierUsage	UU	ICT does not support AIN. This feature cannot detect when a call was redirected due to AIN (that is, an Analyze_Route response or Forward_Call response).

1.4 Last number redial feature

When a caller activates last number redial (LNR), the dialed digits from the last call originated on that telephone are used.

1.4.1 Trigger interactions with LNR

Table 12 provides trigger interactions with LNR.

Table 12 Trigger interactions with LNR

Trigger	Status	Interactions
AFR	S	LNR calls can encounter these triggers.
CDP	S	
International	S	
N11	S	
O_CPB	S	
O_NoA	S	
OHD	S	The last number redialed DN is translated using the originator's dial plan. The number escapes the Off-Hook_Delay trigger when it is an intercom call.
OHI	S	OHI takes precedence over LNR. LNR will not be encountered after OHI.
One_Plus_Prefix	S	LNR calls can encounter these triggers.
Operator_Services	S	
PFC	S	
PRIB	NA	Not applicable
SDS	S	LNR calls can encounter these triggers.
SFC	S	
SIT	NA	Not applicable
Specified_Carrier	S	LNR calls can encounter these triggers.
T_Busy	S	
T_NoA	S	
TAT	S	
TRA	S	The SSP allows a call made with LNR to encounter trigger TRA.
TKTERM	N/A	

1.4.2 Event interactions with LNR

Table 13 provides event interactions with LNR.

Table 13 Event interactions with LNR

Event	Status	Interactions
Network_Busy	S	LNR calls can arm and detect all events.
O_Answer	S	
O_CPB	S	
O_CPB	S	
O_NoA	S	
T_Answer	S	
T_Busy	S	
T_NoA	S	

1.4.3 Other interactions with LNR

Table 14 provides other interactions with LNR.

Table 14 Other interactions with LNR

Description	Status	Interactions
Create_Call	S	Create_Call does not update the outgoing memory slot (OMS). When a Create_Call message establishes a call and the originator activates the LNR feature, the LNR feature applies to the last number dialed by the originator.

1.5 Local coin overtime

The local coin overtime (LCO) feature allows calls originated by coin lines to be timed. When the allotted time expires, an announcement is played to prompt the caller for more money.

1.5.1 Trigger interactions with LCO

Table 15 provides trigger interactions with LCO.

Table 15 Trigger interactions with LCO

Trigger	Status	Interactions
AFR	UU	Not applicable
CDP	UU	
International	UU	
N11	UU	
O_CPB	UU	
O_NoA	UU	
OHD	UU	
OHI	NA	This trigger not supported on coin lines.
One_Plus_Prefix	UU	Not applicable
Operator_Services	UU	
PFC	UU	
PRIB	NA	This trigger not supported on Coin lines
SDS	UU	Not applicable
SFC	UU	
SIT	NA	This trigger not supported on Coin lines
Specified_Carrier	UU	Not applicable
T_Busy	UU	
T_NoA	UU	
TAT	S	For calls from coin lines that trigger at the Termination_Attempt trigger, the LCO timer does not begin until the call actually terminates.
TRA	UU	Not Applicable. The LCO timer does not begin until the call terminates.
TKTERM	N/A	

1.5.2 Event interactions with LCO

Table 16 provides event interactions with LCO.

Table 16 Event interactions with LCO

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	
O_Disconnect	S	The interaction between an O_Disconnect event and LCO when 3WC is applicable at the terminator is identical to that between an O_Disconnect event and 3WC. No interaction is anticipated for multiple feature interactions involving O_Disconnect, LCO and call waiting, as LCO disables Call Waiting at the terminator.
O_Disconnect_Called	S	The interaction between an O_Disconnect_Called event and LCO when 3WC is applicable at the terminator is identical to that between an O_Disconnect_Called event and 3WC. No interaction is anticipated for multiple feature interactions involving O_Disconnect_Called , LCO and call waiting, as LCO disables Call Waiting at the terminator.
Timeout	S	The interaction between a Timeout event and LCO when 3WC is applicable at the terminator is identical to that between a Timeout event and 3WC. No interaction is anticipated for multiple feature interactions involving Timeout, LCO and call waiting, as LCO disables Call Waiting at the terminator.

1.5.3 Other interactions with LCO

Table 17 provides other interactions with LCO.

Table 17 Other interactions with LCO

Description	Status	Interactions
Send_to_Resource	PS	When a Send_to_Resource response is returned from the SCP instructing the SSP to play an announcement, the time taken to play the announcement is not included in the time allotted by the LCO feature. For calls from coin lines that terminate on a trunk, the LCO timer begins when the first indication of answer or termination at the far end is received at the switch serving the coin line.When an AnswerIndicator parameter is received in a Send_to_Resource response from the SCP, then the answer indicator is propagated back to the switch serving the coin line causing the LCO timer to start. When the LCO timer expires before the AIN announcement is finished playing, the LCO announcement and the AIN announcement overlaps. ***Note:*** When the LCO timer and AIN announcement overlap, the LCO feature is never encountered. When the AnswerIndicator parameter is not present in a Send_to_Resource response from the SCP, the LCO timer starts when the call terminates. This behavior is consistent with line to line calls involving LCO.

1.6 Local number portability

Local number portability (LNP) is both a service and an AIN trigger. LNP provides the user with the ability to move from one switch to another and keep their original DN. A call to a ported DN initiates an LNP query to an SCP in order to obtain the location routing number (LRN) of the office where the call is ported. LNP then deflects the call to the recipient office corresponding to the returned LRN.

While LNP is an AIN trigger, interactions between LNP and switch-based features are documented in the LNP Service Implementation Guide (a Nortel Networks NTP).

1.6.1 Trigger interactions with LNP

Table 18 provides trigger interactions with LNP.

Table 18 Trigger interactions with LNP

Trigger	Status	Interactions
AFR	PS	Trigger AFR can be hit prior to hitting trigger LNP. An AFR trigger following an LNP trigger is currently unsupported and untested (UU).
CDP	S	These triggers can be hit prior to hitting trigger LNP. These triggers cannot be hit after an LNP trigger.
International	S	
N11	S	
O_CPB	S	Trigger O_CPB can be hit prior to hitting trigger LNP. This trigger can also be hit when LNP directs the call to a busy party.
O_NoA	S	Trigger O_NoA can be hit prior to hitting trigger LNP. This trigger can also be hit when LNP directs the call to a party that does not answer.
OHD	S	These triggers can be hit prior to hitting trigger LNP. These triggers cannot be hit after an LNP trigger.
OHI	S	
One_Plus_Prefix	S	These triggers can be hit prior to hitting trigger LNP. These triggers cannot be hit after an LNP trigger even when the prefix parameter is populated in the LNP response message.
Operator_Services	S	These triggers can be hit prior to hitting trigger LNP. These triggers cannot be hit after an LNP trigger.
PFC	S	
PRIB	S	
SDS	S	Trigger SDS can be hit prior to hitting trigger LNP. This trigger cannot be hit (on the same switch) after an LNP trigger. It is possible to encounter trigger SDS at a subsequent switch and in that case, the trigger criteria checking is performed on the digits contained in the ported called number generic address parameter (GAP) when it is present. There is an optional escape criterion that is applicable to trigger SDS that escapes the trigger when there is a ported number GAP present.

Table 18 Trigger interactions with LNP (Continued)

Trigger	Status	Interactions
SFC	S	These triggers can be hit prior to hitting trigger LNP. These triggers cannot be hit after an LNP trigger.
SIT	S	
Specified_Carrier	S	
T_Busy	S	These triggers can be hit both prior to and after hitting trigger LNP.
T_NoA	S	
TAT	S	
TRA	S	The SSP allows an applicable call to encounter trigger TRA before or after encountering the trigger LNP.
TKTERM	S	

1.6.2 Event interactions with LNP

Table 19 provides event interactions with LNP.

Table 19 Event interactions with LNP

Event	Status	Interactions
Network_Busy	PS	Events that are armed prior to hitting trigger LNP are detected. Events cannot be armed in the Analyze_Route that is received in response to trigger LNP.
O_Answer	PS	
O_CPB	PS	
O_CPB	PS	
O_NoA	PS	
T_Answer	PS	
T_Busy	PS	
T_NoA	PS	

1.6.3 Other interactions with LNP

Table 20 provides other interactions with LNP.

Table 20 Other interactions with LNP

Description	Status	Interactions
AIN_DEFAULT_CARRIE R	S	When the AIN_Default_Carrier is populated with any CIC other than the default LEC carrier, trigger LNP is not encountered because trigger LNP is not supported without the ESCEA criteria.
AIN toll-free service	S	This trigger can be encountered after the AIN TFS trigger has been hit.
Analyze_Route	S	LNP can be encountered following any other AIN trigger, when the SCP returns an Analyze_Route response containing a CalledPartyID with a nature of number equal to national number.
CalledPartyID	S	When a message containing routing parameters or a CalledPartyID with a nature of number other than national number is received in response to an LNP trigger, that message is processed as though the trigger was an SDS trigger. The call is then subject to the same interactions with switch-based features as the SDS trigger.
Continue	S	LNP can be encountered when an SDS trigger results in a Continue response from the SCP.
Forward_Call	S	LNP can be encountered following any other AIN trigger, when the SCP returns an Forward_Call response containing a CalledPartyID with a nature of number equal to national number.
OTS screening	S	When LNP redirects a call to another office, the OTS screening is performed on the OCN.
Create_Call	S	When the CalledPartyID contains a ported number, the call hits an LNP trigger.
parameter CarrierUsage	S	When the response message to an LNP query contains parameter Carrier, the call routes to treatment regardless of the presence or absence of parameter CarrierUsage. When a ported number is received in the response message (Analyze_Route, Forward_Call) with a carrier parameter for an AIN query, the call is subjected to trigger analysis for all values of parameter CarrierUsage.

1.7 Long distance signal and toll alert

The Long Distance Signal (LDS) feature provides end users with an indication of an incoming toll call by providing distinctive ringing or distinctive call waiting tones to the called line.

1.7.1 Trigger interactions with LDS

Table 21 provides trigger interactions with LDS.

Table 21 Trigger interactions with LDS

Trigger	Status	Interactions
AFR	S	LDS is encountered in the terminating call model after termination_Attempt TDP. Therefore, a call terminating to an LDS subscriber can have previously hit these triggers.
CDP	S	
International	S	
N11	S	
O_CPB	S	For intraswitch and interswitch calls, the behavior of the Long Distance Signaling (LDS) feature is assumed to be similar to the call waiting feature. Therefore, the LDS feature is supported. The O_Called_Party_Busy trigger can be detected when the call terminates on a DN that has subscribed to the LDS feature.
O_NoA	S	For intraswitch and interswitch calls, the behavior of the Long Distance Signaling (LDS) feature is assumed to be similar to the call waiting feature. Therefore, the LDS feature is supported. The O_No_Answer triggers can be detected when the call terminates on a DN that has subscribed to the LDS feature.

Table 21 Trigger interactions with LDS (Continued)

Trigger	Status	Interactions
OHD	S	LDS is encountered in the terminating call model after termination_Attempt TDP. Therefore, a call terminating to an LDS subscriber can have previously hit these triggers.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	UU	Not applicable
T_NoA	UU	
TAT	S	LDS is encountered in the terminating call model after termination_Attempt TDP. Therefore, a call terminating to an LDS subscriber can have previously hit this trigger.
TRA	UU	Not applicable. Trigger TRA takes precedence over LDAE. A call terminating to an LDAE subscriber can have previously hit trigger TRA.
TKTERM	N/A	

1.7.2 Event interactions with LDS

Table 22 provides event interactions with LDS.

Table 22 Event interactions with LDS

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.7.3 Other interactions with LDS

Table 23 provides other interactions with LDS.

Table 23 Other interactions with LDS

Description	Status	Interactions
CallingPartyID	S	When the callingPartyID parameter is present, LDS Toll detection is determined using the CallingPartyID information.
ControllingLegTreatment	PS	AIN Distinctive Ringing Alerting and AIN Distinctive Call Waiting tones take precedence over the LDS switch-based ringing or call waiting tones. For more information on AIN Distinctive Alerting, see Section 21.4.1 “AIN distinctive alerting” on page 730.
PassiveLegTreatment	PS	

1.8 Long distance alert enhancement

The Long distance alert enhancement (LDAE) feature enhances the long distance signal (LDS) feature by introducing the following functions:

- ability to provide LDA as a separate ring or tone line option

  Note: This is the only SOC controlled part of LDAE.

- ability to specify the duration of the time-out for call-waited calls
- ability to specify whether distinctive alerting is provided when no calling line ID (CLID) is delivered.

LDAE has the same interactions with AIN as LDS. See Section 1.7 on page 61.

1.9 Messaging features

This section describes interactions with messaging features. See Table 180 “DMS-100 features” on page 720 for a complete list of messaging features.

1.9.1 Call screening and monitoring intercept

The call screening monitoring intercept (CSMI) feature provides subscribers of a network based answering service (NBAS) with a means of monitoring and intercepting calls that are being handled by the NBAS. The goal of the feature is to enhance the functionality of the NBAS to bring it closer to the functionality that is currently provided with a telephone answering device (TAD).

The CSMI subscriber monitors a forwarded call by going offhook after receiving a ring splash.

1.9.1.1 Trigger interactions with CSMI

Table 24 provides trigger interactions with CSMI.

Table 24 Trigger interactions with CSMI

Trigger	Status	Interactions
AFR	S	These triggers can be encountered on a call that later encounters CSMI.
CDP	S	
International	S	
N11	S	
O_CPB	UU	Not applicable
O_NoA	UU	
OHD	S	This trigger can be encountered on a call that later encounters CSMI.
OHI	S	The CSMI feature takes precedence over the Off-Hook_Immediate trigger. Similarly, in the pay-per-use CSMI feature where the CSMI user monitors a forwarded call by going offhook and dialing an access code, this CSMI feature also takes precedence over the AIN Off-Hook_Immediate trigger.

Table 24 Trigger interactions with CSMI (Continued)

Trigger	Status	Interactions
One_Plus_Prefix	S	These triggers can be encountered on a call that later encounters CSMI.
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	UU	Not applicable
T_NoA	UU	
TAT	S	This trigger can be encountered on a call that later encounters CSMI.
TRA	UU	Not applicable. Trigger TRA can be encountered on a call that later encounters CSMI.
TKTERM	N/A	

1.9.1.2 Event interactions with CSMI

Table 25 provides event interactions with CSMI.

Table 25 Event interactions with CSMI

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.9.1.3 Other interactions with CSMI

Table 26 provides other interactions with CSMI.

Table 26 Other interactions with CSMI

Description	Status	Interactions
AIN redirections	UU	CSMI cannot be used when calls are redirected from the CSMI subscriber via AIN.

1.9.2 Executive message waiting

Executive message waiting (EMW) consists of three features, they are

- message service - message-list editing
- message service - leave message
- call request enhancement

Together, these three features enable end users to leave and retrieve messages at a MBS with display.

For EMW, a message cannot be left in the following scenario: A and C, both with EMW, are in the same customer group. B is in another customer group or is a POTS line. B is subscribed to the Termination_Attempt trigger with a Forward_Call response routing to C. A calls B, gets routed to C, and cannot leave a message.

1.9.2.1 Trigger interactions with EMW

Table 27 provides trigger interactions with EMW.

Table 27 Trigger interactions with EMW

Trigger	Status	Interactions
AFR	S	All originating triggers can be hit with EMW when it is the original calling party that is subscribed to the triggers. When it is the called party that is subscribed to the triggers, the originating triggers are not hit when the EMW button is pressed to return calls. Messages can be left and returned properly in all cases. AIN does not affect the functionality of EMW.
CDP	S	
International	S	
N11	S	
O_CPB	UU	Not applicable
O_NoA	UU	

Table 27 Trigger interactions with EMW (Continued)

Trigger	Status	Interactions
OHD	S	All originating triggers can be hit with EMW when it is the original calling party that is subscribed to the triggers. When it is the called party that is subscribed to the triggers, the originating triggers are not hit when the EMW button is pressed to return calls. Messages can be left and returned properly in all cases. AIN does not affect the functionality of EMW.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	UU	Not applicable
T_NoA	UU	
TAT	PS	The Termination_Attempt trigger is not encountered when an EMW call is returned. That is, when a party subscribed to the AIN Termination_Attempt trigger calls and leaves a message using EMW, the call cannot be returned using EMW. The AIN Termination_Attempt trigger is not encountered and the call is routed to BUSY treatment. CallRequestRetrieval does not interact with the Termination_Attempt trigger.
TRA	PS	The TRA trigger can not be encountered when an EMW call is returned. When a party subscribed to an AIN TRA trigger, calls and leaves a message using EMW, the call can be returned using EMW. CallRequest retrieval does not interact with trigger TRA.
TKTERM	N/A	

1.9.2.2 Event interactions with EMW

Table 28 provides event interactions with EMW.

Table 28 Event interactions with EMW

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.9.2.3 Other interactions with EMW

Table 29 provides other interactions with EMW.

Table 29 Other interactions with EMW

Description	Status	Interactions
CallingPartyId	S	When the CallingPartyId sent in an SCP response is different from the originating party DN, then the CallingPartyId is displayed when the phone is ringing. Once the message has been left using EMW, then it is the actual originating party's DN that is shown upon pressing the EMW key to return the call. It is to this DN that the call is routed to when the EMW key is used to return the call.
Create_Call	S	When alerting the originator, terminating features do not activate.

Table 29 Other interactions with EMW (Continued)

Description	Status	Interactions
Update message	PS	MWT and EMW cannot be active on the same agent when the Update MWI request is received by the SSP. An exception is the case of a RES agent requiring Visual Indication-Lamp. In this case, the agent requires the SSP-based MWT feature with CMWI to be assigned to the RES agent. The update software will check for the MWT subscription in the case of the AINMWT request. However, the SSP based EMW feature should not be used to change the status of the Agent processed by the Update functionality in the SSP.
Forward_Call	PS	When all three parties have EMW when a Forward_Call is used, then AIN does not affect the functionality of EMW. A caller cannot leave a message for a party that does not have EMW. When party A calls party B and the call is forwarded to party C, it is party C that receives the EMW message left by party A. When the CallingPartyId sent in an SCP response after a Forward_Call is different from the originating party DN, it has no effect on what is displayed in the EMW scenarios. The original calling party's DN is displayed using the EMW button and it is to this DN that the call is routed to when using the EMW button to return the call.

1.9.3 FAX-thru service

The DMS-100 fax-thru service (FTS) feature is a special delivery service (SDS) enhancement that upon detection of a busy or no-answer condition allows routing of a fax call to a fax messaging platform (FMP). FTS interacts with AIN in the same way as SDS does. See Section 1.9.5 “Special delivery service”.

1.9.4 In-session activation

The in-session activation (ISA) feature provides callers with a convenient means of accessing a call completion service during unsuccessful call attempts. Unsuccessful calls are those that are not answered within an operating company's selectable time limit or those that encounter a busy condition.

Throughout this section the following terminology is used:

- **original call** - this is the call made by the caller dialing the called party. AIN can be encountered through an originating or terminating trigger prior to ISA activation.
- **ISA call** - this is the call to the DN specified in table ISAMENU when the selector is set to ROUTDN after the caller has entered a valid entry.

1.9.4.1 Trigger interactions with ISA

Table 30 provides trigger interactions with ISA.

Table 30 Trigger interactions with ISA

Trigger	Status	Interactions
AFR	S	ISA can be encountered after these triggers are hit.
CDP	S	
International	S	
N11	S	
O_CPB	S	AIN always has precedence over SSP-based features. When a line with ISA is subscribed to an O_CPB trigger, the trigger has precedence and ISA is not started. When the applicable O_CPB trigger is screened out or denied, ISA applies as usual. Also, when a line has subscribed to the ICSDEACT line option and the ESCFI ICS criterion is used in table TRIGITM, the O_CPB trigger is escaped. Similarly, when a line has subscribed to the MSGDEACT or AMSGDENY line option and the ESCFI AMSG criteria is used, the O_CPB trigger is escaped.
O_NoA	S	AIN always has precedence over SSP-based features. When a line with ISA is eligible to an O_NoA trigger, the trigger has precedence and ISA is not started. However, when the applicable O_NoA trigger is screened out or denied, ISA applies as usual. Also, when a line has subscribed to the ICSDEACT line option and the ESCFI ICS criterion is used in table TRIGITM, the O_NoA trigger is escaped. Similarly, when a line has subscribed to the MSGDEACT or AMSGDENY line option and the ESCFI AMSG criteria is used, the O_NoA trigger is escaped.

Table 30 Trigger interactions with ISA (Continued)

Trigger	Status	Interactions
OHD	S	ISA can be encountered after these triggers are hit.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	S	This trigger takes precedence over ISA. ISA can be reactivated itself depending on the response from the SCP.
T_NoA	S	
TAT	S	On the original call, ISA has a special interaction with the Termination_Attempt trigger. When the trigger is hit, ISA only starts when the response is not to redirect the call to another DN. However, when the call is inter-office, ISA starts in all cases as the originating office does not know about the AIN interaction in the terminating office.
TRA	S	Trigger TRA takes precedence over ISA. ISA can be reactivated depending on the response from the SCP.
TKTERM	N/A	

1.9.4.2 Event interactions with ISA

Table 31 provides event interactions with ISA.

Table 31 Event interactions with ISA

Event	Status	Interactions
Network_Busy	S	This event takes precedence over ISA.
O_Answer	S	
O_CPB	S	This event takes precedence over ISA. For this event, ISA can reactivate itself depending on the response from the SCP.

Table 31 Event interactions with ISA

Event	Status	Interactions
O_NoA	S	This event takes precedence over ISA. For this event, ISA is deactivated permanently.
T_Answer	S	This event takes precedence over ISA.
T_Busy	S	This event takes precedence over ISA. For this event, ISA can reactivate itself depending on the response from the SCP.
T_NoA	S	This event takes precedence over ISA. For this event, ISA is deactivated permanently.

1.9.4.3 Other interactions with In-session activation

Table 32 provides other interactions with In-session activation.

Table 32 Other interactions with In-session activation

Description	Status	Interactions
AIN responses	S	The AIN response information always overrides any default call information. The same applies to the call information specified in table SPINFO when an ISA call is initiated. When an AIN trigger has been encountered after ISA, then the AIN response information overrides previous information provided by ISA. When an ISA call occurs after an AIN trigger has been encountered then the ISA information overrides previous information from the AIN response.
ExtendedRinging	S	The AIN O_NoA and T_NoA events and triggers have precedence over ISA. ISA is deactivated when O_NoA or T_NoA is detected. ER functionality is invoked when applicable. Following receipt of an STR/IP message, the SSP sends a Resource_Clear message once STR/IP processing is complete. When a Continue message is received in response to this Resource_Clear message, the ISA feature is not invoked.
Create_Call	S	When alerting the originator, terminating features do not activate.

1.9.5 Special delivery service

Special delivery service (SDS) is a feature that provides the caller with the option to invoke message delivery when the called party is busy or does not answer within an office-defined interval. The service is offered only to the subscribed originator and is requested directly from the end office (EO) where the call is originating. The actual voice message delivery is then offered from a voice message system (VMS) attached to the telephone company's network.

When the call is not answered within the office-defined interval, an SDS ringing or no-answer announcement is played to inform the calling party that the SDS service is available. The originating switch maintains connection with the called party during the SDS ringing or no-answer announcement. The caller can accept the SDS service by pressing the SDS acceptance key.

1.9.5.1 Trigger interactions with SDS

Table 33 provides trigger interactions with SDS.

Table 33 Trigger interactions with SDS

Trigger	Status	Interactions
AFR	S	On the portion of the call up to and including termination to the party originally called by the SDS subscriber, any AIN trigger can be encountered.
CDP	S	
International	S	On the portion of the call up to and including termination to the party originally called by the SDS subscriber, any AIN trigger can be encountered. On the portion of the call that sends the SDS subscriber to the VMS DN, this trigger can be hit.
N11	S	On the portion of the call up to and including termination to the party originally called by the SDS subscriber, any AIN trigger can be encountered.
O_CPB	PS	AIN always has precedence over SSP-based features. When a line with SDS is subscribed to an O_CPB trigger, the trigger has precedence and SDS is not started. When the applicable O_CPB trigger is screened out or denied, SDS applies as usual. Also, when a line has subscribed to the SDSDENY line option and the ESCFI ICS criterion is used in table TRIGITM, the O_CPB trigger is escaped. Similarly, when a line has subscribed to the MSGDEACT or AMSGDENY line option and the ESCFI AMSG criteria is used, the O_CPB trigger is escaped. When the SCP responds with a Continue, the SDS feature can be encountered.

Table 33 Trigger interactions with SDS (Continued)

Trigger	Status	Interactions
O_NoA		AIN always has precedence over SSP-based features. When a line with SDS is eligible to an O_NoA trigger, the trigger has precedence and SDS is not started. However, when the applicable O_NoA trigger is screened out or denied, SDS applies as usual. Also, when a line has subscribed to the SDSDENY line option and the ESCFI ICS criterion is used in table TRIGITM, the O_NoA trigger is escaped. Similarly, when a line has subscribed to the MSGDEACT or AMSGDENY line option and the ESCFI AMSG criteria is used, the O_NoA trigger is escaped. When the SCP responds with a Continue, the SDS feature will still not be offered.
OHD	S	On the portion of the call up to and including termination to the party originally called by the SDS subscriber, any AIN trigger can be encountered.
OHI	S	
One_Plus_Prefix	S	On the portion of the call up to and including termination to the party originally called by the SDS subscriber, any AIN trigger can be encountered. On the portion of the call that sends the SDS subscriber to the VMS DN, these triggers can be hit.
Operator_Services	S	
PFC	S	On the portion of the call up to and including termination to the party originally called by the SDS subscriber, any AIN trigger can be encountered.
PRIB	S	
SDS	S	On the portion of the call up to and including termination to the party originally called by the SDS subscriber, any AIN trigger can be encountered. On the portion of the call that sends the SDS subscriber to the VMS DN, this trigger can be hit.
SFC	S	On the portion of the call up to and including termination to the party originally called by the SDS subscriber, any AIN trigger can be encountered.
SIT	S	
Specified_Carrier	S	On the portion of the call up to and including termination to the party originally called by the SDS subscriber, any AIN trigger can be encountered. On the portion of the call that sends the SDS subscriber to the VMS DN, this trigger can be hit.
T_Busy	PS	The call can hit this trigger.

Table 33 Trigger interactions with SDS (Continued)

Trigger	Status	Interactions
T_NoA	S	For intra-switch, the GR requirements specify that the AIN triggers have precedence over the switch-base features like Special Delivery Service feature. However, the requirements allow the switch-base feature to intervene on a call when the AIN triggers do not apply or when a Continue response is received from the SCP in response to a T_No_Answer trigger. The SDS No Answer timer is initialized to its full value, when continue response is received for T_No_Answer trigger query and when SDS is subscribed to by the originator. For inter-switch calls, when originator is subscribed to SDS and the terminator is subscribed to T_No_Answer trigger, the activation precedence is based on the timer value of these two features.
TAT	S	On the portion of the call up to and including termination to the party originally called by the SDS subscriber, any AIN trigger can be encountered. On the portion of the call that sends the SDS subscriber to the VMS DN, this trigger can be hit.
TRA	S	Trigger TRA takes precedence over SDS.
TKTERM	N/A	

1.9.5.2 Event interactions with SDS

Table 34 provides event interactions with SDS.

Table 34 Event interactions with SDS

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	S	This trigger takes precedence over SDS. SDS can be reactivated, depending on the response from the SCP.
O_NoA	S	
T_Answer	UU	Not applicable
T_Busy	S	This trigger takes precedence over SDS. SDS can be reactivated itself depending on the response from the SCP.
T_NoA	S	

1.9.5.3 Other interactions with SDS

Table 35 provides other interactions with SDS.

Table 35 Other interactions with SDS

Description	Status	Interactions
RedirectingPartyID	S	SDS sets the OriginalCalledID to the called party number, that is used to populate the RedirectingPartyID parameter in the AIN query messages, and the OriginalRedirectionReason to either user_busy or user_no_reply. These parameters are propagated through SMDI, ISUP, and PRI. For outpulsing over ISUP, PRI trunks, or SMDI links, the party dialed by the SDS subscriber always appears as the first redirection. In this case, the party that the SDS subscriber originally dialed is provided as the first redirection in the query message
Collect_Information	S	When processing parameter CollectedDigits in a Collect_Information message the SDS feature can be activated.
Continue	UU	When the call hits the TBusy trigger and the response sent back from the SCP is OfferCall or Continue, the call does not encounter the SDS (No Answer) feature.
Offer_Call	S	When the T_Busy trigger receives an Offer_Call response from the SCP, the SDS feature is activated, when it is subscribed to by the originator.
ExtendedRinging	S	The AIN O_NoA and T_NoA events and triggers have precedence over SDS. SDS is deactivated when O_NoA is detected. ER functionality is invoked when applicable. However, SDS can be invoked when a Continue message is sent by the SCP for the T_NoA trigger or EDPR.
Create_Call	S	When alerting the originator, terminating features are not activated.

1.9.6 Selective call messaging

The selective call messaging (SCM) service is an enhancement to the existing SDS.

SCM allows the operating company to optionally offer a message delivery service with universal subscription. A “deny” option is already available on a per-line basis and is provided on a per-customer group basis. SDS interacts with AIN in the same way as SDS. See Section 1.9.5 “Special delivery service”.

1.9.7 Service offering decoupling of SDS

Service offering decoupling of SDS (SODS) is a feature that enhances the base SDS access to messaging features and the access to automatic call back (ACB) feature.

SODS provides the operating company with the following enhancements:

- Decoupling of the subscription mode of the existing SDS service between access to ACB and access to messaging.
- SDS support for an alternate messaging provider.
- SDS support for customer announcements.

SODS has the same interactions with AIN as SDS. See Section 1.9.5 “Special delivery service”.

1.9.8 Station message waiting

The station message waiting (MWT) feature provides notification to users that a message has been queued against their directory number (DN). The feature permits a user to dial an access code to call back the station user or attendant who activated the station message waiting feature against their DN. This feature also allows the station user to activate MWT on another station.

1.9.8.1 Trigger interactions with MWT

Table 36 provides trigger interactions with MWT.

Table 36 Trigger interactions with MWT

Trigger	Status	Interactions
AFR	S	All the originating triggers work properly with MWT and CMWI. Callers that hit the originating triggers can leave a message for the Called Party using the MWT code and these calls can be successfully returned using MWT.
CDP	S	
International	S	
N11	S	
O_CPB	UU	Not applicable
O_NoA	UU	

Table 36 Trigger interactions with MWT (Continued)

Trigger	Status	Interactions
OHD	S	All the originating triggers work properly with MWT and CMWI. Callers that hit the originating triggers can leave a message for the Called Party using the MWT code and these calls can be successfully returned using MWT.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	UU	Not applicable
T_NoA	UU	
TAT	S	Calls made to an MWT line that is subscribed to the Termination_Attempt trigger with an Authorize_Termination response work properly. Messages can be both left and returned using MWT.
TRA	UU	Not applicable. Trigger TRA takes precedence over MWT. Calls made to a line that is subscribed to trigger TRA and has MWT, after encountering TRA trigger and receiving a continue response, can leave messages using MWT.
TKTERM	N/A	

1.9.8.2 Event interactions with MWT

Table 37 provides event interactions with MWT.

Table 37 Event interactions with MWT

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.9.8.3 Other interactions with MWT

Table 38 provides other interactions with MWT.

Table 38 Other interactions with MWT

Description	Status	Interactions
Forward_Call	PS	A message cannot be left in the following scenario: A and C, both with MWT, are in the same customer group. B is in another customer group or is a POTS line. B is subscribed to the Termination_Attempt trigger with a Forward_Call response routing to C. A calls B, gets routed to C, and cannot leave a message.
Update message	PS	MWT and EMW cannot be active on the same agent when the Update MWI request is received by the SSP. An exception is the case of a RES agent requiring Visual Indication-Lamp. In this case, the agent requires the SSP-based MWT feature with CMWI to be assigned to the RES agent. The update software will check for the MWT subscription in the case of the AINMWT request. However, the SSP based MWT feature should not be used to change the status of the Agent processed by the Update functionality in the SSP.
Create_Call	S	When alerting the originator, terminating features do not activate.

1.9.9 Universal voice messaging

Universal voice messaging (UVM) is a voice messaging service offered universally to residential and small business end users through simplified dialing. The service is intended to be universal for several types of originating and terminating residential and business customers within an operating company's network.

A UVM subscriber can invoke UVM after a call is made that is busy or unanswered.

The UVM service is implemented in the end-office as two features: UVM deposit and UVM retrieve. The features are invoked by the end user by dialing "*XX" feature activation codes after going offhook.

The UVM deposit feature allows a caller to leave a message for a party of a previously dialed number even when the message recipient is not a subscriber to a voice message system (VMS). The UVM retrieve feature allows the message recipient parties to retrieve messages from their lines.

The UVM features route calls to the VMS connected to the end-office through an UCD/SMDI link or a PRI link. For UVM deposit, the interface allows the delivery of the calling party and the original called number to the VMS while for UVM retrieval it provides the calling party with a special billing DN as the forwarded number.

1.9.9.1 Trigger interactions with UVM

Table 39 provides trigger interactions with UVM.

Table 39 Trigger interactions with UVM

Trigger	Status	Interactions
AFR	S	The call to the previously dialed party can encounter any AIN trigger. This trigger can be hit on the UVM call while routing to the VMS.
CDP	PS	The call to the previously dialed party can encounter any AIN trigger. This trigger cannot be hit on the UVM call.
International	S	The call to the previously dialed party can encounter any AIN trigger. This trigger can be hit on the UVM call using the VMS DN.
N11	PS	The call to the previously dialed party can encounter any AIN trigger. This trigger cannot be hit on the UVM call.
O_CPB	UU	Not applicable
O_NoA	UU	
OHD	PS	The call to the previously dialed party can encounter any AIN trigger. These triggers cannot be hit on the UVM call.
OHI	PS	

Table 39 Trigger interactions with UVM (Continued)

Trigger	Status	Interactions
One_Plus_Prefix	S	The call to the previously dialed party can encounter any AIN trigger. These triggers can be hit on the UVM call using the VMS DN.
Operator_Services	S	
PFC	PS	The call to the previously dialed party can encounter any AIN trigger. These triggers cannot be hit on the UVM call.
PRIB	PS	
SDS	S	The call to the previously dialed party can encounter any AIN trigger. This trigger can be hit on the UVM call using the VMS DN.
SFC	PS	The call to the previously dialed party can encounter any AIN trigger. These triggers cannot be hit on the UVM call.
SIT	PS	
Specified_Carrier	S	The call to the previously dialed party can encounter any AIN trigger. This trigger cannot be hit on the UVM call using the VMS DN.
T_Busy	UU	Not applicable
T_NoA	UU	
TAT	S	The call to the previously dialed party can encounter any AIN trigger. This trigger can be hit on the UVM call, f subscribed to by the VMS DN.
TRA	S	Trigger TRA takes precedence over UVM.
TKTERM	N/A	

1.9.9.2 Event interactions with UVM

Table 40 provides event interactions with UVM.

Table 40 Event interactions with UVM

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.9.9.3 Other interactions with UVM

Table 41 provides other interactions with UVM.

Table 41 Other interactions with UVM

Description	Status	Interactions
RedirectingPartyID	S	For UVM deposit, when the DN of the previously dialed party exists in the outgoing call memory block, it is used to populate the RedirectingPartyID parameter of AIN query messages. In cases where it does not exist (that is, UVM subscriber is a residential coin line), the VMS DN is used to populate the RedirectingPartyID parameter. In the case of UVM retrieve, the special billing number is used to populate the RedirectingPartyID parameter of the AIN query message. For outpulsing over ISUP, PRI trunks, or SMDI links, the UVM previously dialed party always appears as the first redirection.
Create_Call	S	When alerting the originator, terminating features do not activate.

1.10 Multiple appearance directory number features

A directory number (DN) that is assigned to more than one MBS is called a multiple appearance directory number (MADN). The MBS' that are assigned this DN are known as the MADN group. MADN groups can be comprised of up to 32 stations, and can be configured in either a single-call arrangement (SCA) or a multiple-call arrangement (MCA). This section describes interactions with MADN features. See Table 180 "DMS-100 features" on page 720 for a complete list of MADN features.

1.10.1 MADN Cach and Cach Bridging

MADN Cach and Cach Bridging is similar to MADN SCA and SCA Bridging, but provides some hunting options. A MADN Cach and Cach Bridging group is a collection of MADN SCA and SCA Bridging groups that all share the same DN. A call to a CACH group terminates on the first available SCA group (called a CA). CAs can be provisioned to accept incoming calls, no incoming calls or priority only calls.

SCA bridging allows any member of the SCA group to go off-hook and connect to the current call.

1.10.1.1 Trigger interactions with MADN Cach and Cach Bridging

Table 42 provides trigger interactions with MADN Cach and Cach Bridging.

Table 42 Trigger interactions with MADN Cach and Cach Bridging

Trigger	Status	Interactions
AFR	S	A call that encounters this trigger can terminate on a MADN group. A call originated by MADN can hit this trigger.
CDP	S	
International	S	
N11	S	
O_CPB	S	The O_CPB trigger is encountered on a call when all members of a MADN group are busy.
O_NoA	PS	The O_NoA trigger is encountered on a call when all members of a MADN group do not answer. When MADN bridging occurs, this trigger is deactivated and is not hit.
OHD	S	A call that encounters this trigger can terminate on a MADN group. A call originated by MADN can hit this trigger.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	A call that encounters this trigger can terminate on a MADN group.

Table 42 Trigger interactions with MADN Cach and Cach Bridging (Continued)

Trigger	Status	Interactions
SDS	S	A call that encounters this trigger can terminate on a MADN group. A call originated by MADN can hit this trigger.
SFC	S	
SIT	S	A call that encounters this trigger can terminate on a MADN group.
Specified_Carrier	S	A call that encounters this trigger can terminate on a MADN group. A call originated by MADN can hit this trigger.
T_Busy	S	T_Busy is encountered when all members of the group are busy.
T_NoA	PS	T_NoA can be hit when no MADN members answer. When MADN bridging occurs, this trigger is deactivated and is not hit.
TAT	S	A call that encounters this trigger can terminate on a MADN group. A call originated by MADN can hit this trigger.
TRA	S	Trigger TRA can be encountered when at least one MADN SCA bridged group is available.
TKTERM	N/A	

1.10.1.2 Event interactions with MADN Cach and Cach Bridging

Table 43 provides event interactions with MADN Cach and Cach Bridging.

Table 43 Event interactions with MADN Cach and Cach Bridging

Event	Status	Interactions
Network_Busy	S	This event can be armed and detected on calls to a MADN Cach and Cach Bridging group.
O_Answer	S	
O_CPB	S	

Table 43 Event interactions with MADN Cach and Cach Bridging (Continued)

Event	Status	Interactions
O_Disconnect	PS	For all two-party scenarios comprised of a MADN CACH member and an external party, standard O_Disconnect behavior applies. If a MADN CACH member is an O_Disconnect controller and another MADN member tries to bridge into the call, the bridge attempt will be blocked since a MADN member cannot simultaneously be a bridge controller and a CPH controller. When a O_Disconnect event is associated with an established conference call, such as MADN Bridging, 3WC or FlexCall, CPH multi-conferencing is not supported except in the following: • A MADN bridged member is allowed to establish a 3WC conference. With the above exception, if a O_Disconnect event is associated with an established conference call such as MADN Bridging, 3WC or FlexCall, conference members are blocked from activating a conference. The following CPH multi-conference calls are blocked: • FlexCall-MADN Bridging • FlexCall-3WC • FlexCall-FlexCall • MADN Bridging-FlexCall • MADN Bridging-MADN Bridging • 3WC-FlexCall • 3WC-MADN Bridging • 3WC-3WC

Table 43 Event interactions with MADN Cach and Cach Bridging (Continued)

<table>
<tr><th>Event</th><th>Status</th><th>Interactions</th></tr>
<tr><td>O_Disconnect_Called</td><td>PS</td><td>For all two-party scenarios comprised of a MADN CACH member and an external party, standard O_Disconnect_Called behavior applies.

If a MADN CACH member is an O_Disconnect_Called controller and another MADN member tries to bridge into the call, the bridge attempt will be blocked since a MADN member cannot simultaneously be a bridge controller and a CPH controller.

If an external party calls a MADN CACH group arming the O_Disconnect_Called event and the call is answered, the event will be detected when all bridged MADN members go onhook.

When a O_Disconnect_Called event is associated with an established conference call, such as MADN Bridging, 3WC or FlexCall, CPH multi-conferencing is not supported except in the following:
• A MADN bridged member is allowed to establish a 3WC conference.

With the above exception, if a O_Disconnect_Called event is associated with an established conference call such as MADN Bridging, 3WC or FlexCall, members are blocked from activating a conference.

The following CPH multi-conference calls are blocked:
• FlexCall-MADN Bridging
• FlexCall-3WC
• FlexCall-FlexCall
• MADN Bridging-FlexCall
• MADN Bridging-MADN Bridging
• 3WC-FlexCall
• 3WC-MADN Bridging
• 3WC-3WC</td></tr>
<tr><td>O_NoA</td><td>PS</td><td>When MADN bridging occurs, this event is closed with close cause set to EDPs Completed.</td></tr>
<tr><td>T_Answer</td><td>S</td><td rowspan="2">This event can be armed and detected on calls to a MADN Cach and Cach Bridging group.</td></tr>
<tr><td>T_Busy</td><td>S</td></tr>
</table>

Table 43 Event interactions with MADN Cach and Cach Bridging (Continued)

Event	Status	Interactions
T_NoA	PS	When MADN bridging occurs, this event is closed with close cause set to EDPs Completed.
Timeout	PS	For all two-party scenarios comprised of a MADN CACH member and an external party, standard Timeout behavior applies. When a MADN CACH member is a Timeout controller and another MADN member tries to bridge into the call, the bridge attempt will be blocked since a MADN member cannot simultaneously be a bridge controller and a CPH controller. When an originating party terminates to a MADN CACH group arming Timeout in the process, the terminating MADN group is allowed to bridge since the originating party is the CPH controller and the terminating MADN group contains the bridge controller. The CPH and bridge controllers are not the same party. When a Timeout event is associated with an established conference call, such as MADN Bridging, 3WC or FlexCall, CPH multi-conferencing is not supported except in the following: • A MADN bridged member is allowed to establish a 3WC conference. With the above exception, if a O_Disconnect event is associated with an established conference call such as MADN Bridging, 3WC or FlexCall, conference members are blocked from activating a conference. The following CPH multi-conference calls are blocked: • FlexCall-MADN Bridging • FlexCall-3WC • FlexCall-FlexCall • MADN Bridging-FlexCall • MADN Bridging-MADN Bridging • 3WC-FlexCall • 3WC-MADN Bridging • 3WC-3WC

1.10.1.3 Other interactions with MADN Cach and Cach Bridging

Table 44 provides other interactions with MADN Cach and Cach Bridging.

Table 44 Other interactions with MADN Cach and Cach Bridging

Description	Status	Interactions
Offer_Call	S	For IBN and 500/2500 series set, CWT can not be activated while in MADN bridging.Therefore parameter BusyType in T_Busy query is populated with CallCannotBeOffered.
Collect_Information	S	When the CollectedDigits parameter contains digits that correspond to a MADN group, then the call will terminate on the MADN group.
DisplayText	S	DisplayText is displayed on all ringing sets in a MADN SCA group, and once picked up, only on the active MADN member. All MADN agents that bridge into a call receive AIN DisplayText.
ExtendedRinging	S	When O_NoA is encountered and an STR with ER is received, all MADN group members continue to be alerted.

1.10.2 MADN EXB

The extension bridging (EXB) feature associates a single directory number (DN) with a group of subscribers on different RES lines and enables these group members to behave as when they were extensions of a single line. EXB is a variant of the MADN feature (a feature that associates a single DN with a group of subscribed lines). The subscriber lines associated with a single DN are referred to as a MADN group, and each subscriber is a MADN group member.

1.10.2.1 Trigger interactions with MADN EXB

Table 45 provides trigger interactions with MADN EXB.

Table 45 Trigger interactions with MADN EXB

Trigger	Status	Interactions
AFR	S	A call that encounters these triggers can terminate on a MADN group. A call originated by MADN can hit these triggers.
CDP	S	
International	S	
N11	S	
O_CPB	S	The O_CPB trigger is encountered on a call when all members of a MADN group are busy.

Table 45 Trigger interactions with MADN EXB (Continued)

Trigger	Status	Interactions
O_NoA	S	The O_NoA trigger is encountered on a call when all members of a MADN group do not answer. When MADN bridging occurs, this trigger is deactivated and is not hit.
OHD	S	A call that encounters these triggers can terminate on a MADN group. A call originated by MADN can hit these triggers.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	A call that encounters this trigger can terminate on a MADN group.
SDS	S	A call that encounters this trigger can terminate on a MADN group. A call originated by MADN can hit this trigger.
SFC	S	
SIT	S	A call that encounters this trigger can terminate on a MADN group.
Specified_Carrier	S	A call that encounters this trigger can terminate on a MADN group. A call originated by MADN can hit this trigger.
T_Busy	S	T_Busy is encountered when all members of the group are busy.
T_NoA	S	T_NoA is hit when no MADN members answer. When MADN bridging occurs, this trigger is deactivated and is not hit.
TAT	S	A call that encounters this trigger can terminate on a MADN group. A call originated by MADN can hit this trigger.
TRA	S	Term_Resource_Available trigger can be encountered when the MADN group is available. That is, the DN is not busy in the call.
TKTERM	N/A	

1.10.2.2 Event interactions with MADN EXB

Table 46 provides event interactions with MADN EXB.

Table 46 Event interactions with MADN EXB

Event	Status	Interactions
Network_Busy	S	This event can be armed and detected on calls to and from a MADN EXB group.
O_Answer	S	
O_CPB	S	
O_Disconnect	PS	For all two-party scenarios comprised of a MADN EXB member and an external party, standard O_Disconnect behavior applies. When a MADN EXB member is an O_Disconnect controller and another MADN member tries to bridge into the call, the bridge attempt will be blocked since a MADN member cannot simultaneously be a bridge controller and a CPH controller. When a O_Disconnect event is associated with an established conference call, such as MADN Bridging, 3WC or FlexCall, CPH multi-conferencing is not supported except in the following: • A MADN bridged member is allowed to establish a 3WC conference. With the above exception, if a O_Disconnect event is associated with an established conference call such as MADN Bridging, 3WC or FlexCall, conference members are blocked from activating a conference. The following CPH multi-conference calls are blocked: • FlexCall-MADN Bridging • FlexCall-3WC • FlexCall-FlexCall • MADN Bridging-FlexCall • MADN Bridging-MADN Bridging • 3WC-FlexCall • 3WC-MADN Bridging • 3WC-3WC

Table 46 Event interactions with MADN EXB

Event	Status	Interactions
O_Disconnect_Called	PS	For all two-party scenarios comprised of a MADN EXB member and an external party, standard O_Disconnect_Called behavior applies. When a MADN EXB member is an O_Disconnect_Called controller and another MADN member tries to bridge into the call, the bridge attempt will be blocked since a MADN member cannot simultaneously be a bridge controller and a CPH controller. When an external party calls a MADN EXB group arming the O_Disconnect_Called event and the call is answered, the event will be detected when all bridged MADN members go onhook. When a O_Disconnect_Called event is associated with an established conference call, such as MADN Bridging, 3WC or FlexCall, CPH multi-conferencing is not supported except in the following: • A MADN bridged member is allowed to establish a 3WC conference. With the above exception, if a O_Disconnect_Called event is associated with an established conference call, such as MADN Bridging, 3WC or FlexCall, conference members are blocked from activating a conference. The following CPH multi-conference calls are blocked: • FlexCall-MADN Bridging • FlexCall-3WC • FlexCall-FlexCall • MADN Bridging-FlexCall • MADN-Bridging-MADN Bridging • 3WC-FlexCall • 3WC-MADN Bridging • 3WC-3WC
O_NoA	S	When MADN bridging occurs, this event is closed with close cause set to EDPs Completed.
T_Answer	S	This event can be armed and detected on calls to and from a MADN EXB group.
T_Busy	S	

Table 46 Event interactions with MADN EXB

Event	Status	Interactions
T_NoA	S	When MADN bridging occurs, this event is closed with close cause set to EDPs Completed.
Timeout	PS	For all two-party scenarios comprised of a MADN EXB member and an external party, standard Timeout behavior applies. When a MADN EXB member is a Timeout controller and another MADN member tries to bridge into the call, the bridge attempt will be blocked since a MADN member cannot simultaneously be a bridge controller and a CPH controller. When an originating party terminates to a MADN EXB group arming Timeout in the process, the terminating MADN group is allowed to bridge since the originating party is the CPH controller and the terminating MADN group contains the bridge controller. The CPH and bridge controllers are not the same party. When a Timeout event is associated with an established conference call, such as MADN Bridging, 3WC or FlexCall, CPH multi-conferencing is not supported except in the following: • A MADN bridged member is allowed to establish a 3WC conference. With the above exception, if a O_Disconnect event is associated with an established conference call such as MADN Bridging, 3WC or FlexCall, conference members are blocked from activating a conference. The following CPH multi-conference calls are blocked: • FlexCall-MADN Bridging • FlexCall-3WC • FlexCall-FlexCall • MADN Bridging-FlexCall • MADN Bridging-MADN Bridging • 3WC-FlexCall • 3WC-MADN Bridging • 3WC-3WC

1.10.2.3 Other interactions with MADN EXB

Table 47 provides other interactions with MADN EXB.

Table 47 Other interactions with MADN EXB

Description	Status	Interactions
CallingPartyID	S	Since a MADN group can have many members, the MADN is datafilled in table DNATTRS as being non-unique. As a result, a MADN origination is identified as a non-unique national number in the Nature of Number field of the CallingPartyID parameter in the AIN query message. AIN CallingPartyID is supported on MADN EXB.
Collect_Information	S	When the CollectedDigits parameter contains digits that correspond to a MADN group, then the call will terminate on the MADN group.
DisplayText	S	When received, DisplayText displays on all ringing sets in a MADN group, and once picked up, only on the active MADN member. All MADN agents that bridge into a call receive AIN DisplayText.
ExtendedRinging	S	When O_NoA is encountered and an STR with ER is received, all MADN group members continue to be alerted.
Offer_Call	S	For IBN and 500/2500 series set, CWT can not be activated while in MADN bridging.Therefore parameter BusyType in T_Busy query is populated with CallCannotBeOffered.
OriginalCalledPartyID	S	A MADN termination is identified as a non-unique national number in the Nature of Number field of the OriginalCalledPartyID or RedirectingPartyID parameter
RedirectingPartyID	S	
Subscription	S	Support for subscription of MADN lines to the AIN option is provided through tables IBNFEAT or KSETFEAT, while subscription to the AINDN option is provided through table DNFEAT.

Table 47 Other interactions with MADN EXB (Continued)

Description	Status	Interactions
TRAVER	S	The TRAVER tool only shows AIN Off-Hook_Immediate and Off-hook_Delay triggers on a MADN line when AIN is assigned to the primary LEN or LTID.
Create_Call	S	When the CallingPartyID included in the Create_Call message maps to a MADN group, the Create_Call request is rejected by sending the SCP a failure message with failureCause=inappropriateUserInterface. When the CalledPartyID included in the Create_Call message maps to a MADN group, the call terminates on the MADN group.

1.10.3 MADN MCA

With MCA, more than one set in the MADN group can be active on the MADN simultaneously. The number of simultaneous calls is restricted only by the number of members in the MADN group.

1.10.3.1 Trigger interactions with MADN MCA

Table 48 provides trigger interactions with MADN MCA.

Table 48 Trigger interactions with MADN MCA

Trigger	Status	Interactions
AFR	S	A call that encounters these triggers can terminate on a MADN group. A call originated by MADN can hit these triggers.
CDP	S	
International	S	
N11	S	
O_CPB	S	The O_CPB trigger is encountered on a call when all members of a MADN group are busy.
O_NoA	S	The O_NoA trigger is encountered on a call when all members of a MADN group do not answer.
OHD	S	A call that encounters these triggers can terminate on a MADN group. A call originated by MADN can hit these triggers.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	

Table 48 Trigger interactions with MADN MCA (Continued)

Trigger	Status	Interactions
PRIB	S	A call that encounters this trigger can terminate on a MADN group.
SDS	S	A call that encounters this trigger can terminate on a MADN group. A call originated by MADN can hit this trigger.
SFC	S	
SIT	S	A call that encounters this trigger can terminate on a MADN group.
Specified_Carrier	S	A call that encounters this trigger can terminate on a MADN group. A call originated by MADN can hit this trigger.
T_Busy	S	T_Busy is encountered when all members of the group are busy.
T_NoA	S	T_NoA can be hit when no MADN members answer.
TAT	S	A call that encounters this trigger can terminate on a MADN group. A call originated by MADN can hit this trigger.
TRA	S	Trigger TRA can be encountered when at least one MADN MCA member is available.
TKTERM	N/A	

1.10.3.2 Event interactions with MADN MCA

Table 49 provides event interactions with MADN MCA.

Table 49 Event interactions with MADN MCA

Event	Status	Interactions
Network_Busy	S	This event can be armed and detected on calls to and from MADN groups.
O_Answer	S	
O_CPB	S	
O_NoA	S	
T_Answer	S	
T_Busy	S	
T_NoA	S	

Table 49 Event interactions with MADN MCA

Event	Status	Interactions
O_Disconnect	S	Originations from and terminations to a MADN MCA group result in separate two-party calls, and thus, normal O_Disconnect behavior applies.
O_Disconnect_Called	S	Originations from and terminations to a MADN MCA group result in separate two-party calls, and thus, normal O_Disconnect_Called behavior applies.
Timeout	S	Originations from and terminations to a MADN MCA group result in separate two-party calls, and thus, normal Timeout behavior applies.

1.10.3.3 Other interactions with MADN MCA

Table 50 provides other interactions with MADN MCA.

Table 50 Other interactions with MADN MCA

Description	Status	Interactions
TRAVER	PS	The TRAVER tool only shows AIN Off-Hook_Immediate and Off-hook_Delay triggers on a MADN line when AIN is assigned to the primary LEN or LTID.
CallingPartyID	PS	Since a MADN group can have many members, the MADN is datafilled in table DNATTRS as being non-unique. As a result, a MADN origination is identified as a non-unique national number in the Nature of Number field of the CallingPartyID parameter in the AIN query message. AIN CallingPartyID is not supported on MADN MCA.
OriginalCalledPartyID	S	A MADN termination is identified as a non-unique national number in the Nature of Number field of the OriginalCalledPartyID or RedirectingPartyID parameter
RedirectingPartyID	S	
Subscription	S	Support for subscription of MADN lines to the AIN option is provided through tables IBNFEAT or KSETFEAT, while subscription to the AINDN option is provided through table DNFEAT.
Offer_Call	S	For IBN and 500/2500 series set, CWT can not be activated while in MADN bridging.Therefore parameter BusyType in T_Busy query is populated with CallCannotBeOffered.
Collect_Information	S	When the CollectedDigits parameter contains digits that correspond to a MADN group, then the call will terminate on the MADN group.

Table 50 Other interactions with MADN MCA (Continued)

Description	Status	Interactions
DisplayText	S	When received, DisplayText displays on all ringing sets in a MADN group, and once picked up, only on the active MADN member. AIN DisplayText is not supported for queued calls to IBN sets.
ExtendedRinging	S	When O_NoA is encountered and an STR with ER is received, all MADN group members continue to be alerted.
Create_Call	S	When the CallingPartyID included in the Create_Call message maps to a MADN group, the Create_Call request is rejected by sending the SCP a failure message with failureCause=inappropriateUserInterface. When the CalledPartyID included in the Create_Call message maps to a MADN group, the call terminates on the MADN group.

1.10.4 MADN SCA and SCA Bridging

MADN single-call arrangement (SCA) and SCA Bridging allows only one call to be active (either originating or terminating) on the MADN at any given time. SCA bridging allows any member of the SCA group to go off-hook and connect to the current call.

1.10.4.1 Trigger interactions with MADN SCA and SCA Bridging

Table 51 provides trigger interactions with MADN SCA and SCA Bridging.

Table 51 Trigger interactions with MADN SCA and SCA Bridging

Trigger	Status	Interactions
AFR	S	A call that encounters these triggers can terminate on a MADN group. A call originated by MADN can hit these triggers.
CDP	S	
International	S	
N11	S	
O_CPB	S	This trigger is hit when all members of a MADN group are busy.
O_NoA	S	The O_NoA trigger is encountered on a call when all members of a MADN group don't answer. When MADN bridging occurs, this trigger is deactivated and is not hit.

Table 51 Trigger interactions with MADN SCA and SCA Bridging (Continued)

Trigger	Status	Interactions
OHD	S	A call that encounters these triggers can terminate on a MADN group. A call originated by MADN can hit these triggers.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	A call that encounters this trigger can terminate on a MADN group.
SDS	S	A call that encounters this trigger can terminate on a MADN group. A call originated by MADN can hit this trigger.
SFC	S	
SIT	S	A call that encounters this trigger can terminate on a MADN group.
Specified_Carrier	S	A call that encounters this trigger can terminate on a MADN group. A call originated by MADN can hit this trigger.
T_Busy	S	T_Busy is encountered when all members of the group are busy.
T_NoA	S	T_NoA can be hit when no MADN members answer. When MADN bridging occurs, this trigger is deactivated and is not hit.
TAT	S	A call that encounters this trigger can terminate on a MADN group. A call originated by MADN can hit this trigger.
TRA	S	Trigger TRA can be encountered when no set is active on MADN.
TKTERM	N/A	

1.10.4.2 Event interactions with MADN SCA and SCA Bridging

Table 52 provides event interactions with MADN SCA and SCA Bridging.

Table 52 Event interactions with MADN SCA and SCA Bridging

<table>
<tr><th>Event</th><th>Status</th><th>Interactions</th></tr>
<tr><td>Network_Busy</td><td>S</td><td rowspan="3">This event can be armed and detected on calls to and from MADN groups.</td></tr>
<tr><td>O_Answer</td><td>S</td></tr>
<tr><td>O_CPB</td><td>S</td></tr>
<tr><td>O_NoA</td><td>S</td><td>When MADN bridging occurs, this event is closed with close cause set to EDPs Completed.</td></tr>
<tr><td>T_Answer</td><td>S</td><td rowspan="2">This event can be armed and detected on calls to and from MADN groups.</td></tr>
<tr><td>T_Busy</td><td>S</td></tr>
<tr><td>T_NoA</td><td>S</td><td>When MADN bridging occurs, this event is closed with close cause set to EDPs Completed.</td></tr>
</table>

Table 52 Event interactions with MADN SCA and SCA Bridging

Event	Status	Interactions
O_Disconnect	PS	For all two-party scenarios comprised of a MADN SCA member and an external party, standard O_Disconnect behavior applies. When a MADN SCA member is an O_Disconnect controller and another MADN member tries to bridge into the call, the bridge attempt will be blocked since a MADN member cannot simultaneously be a bridge controller and a CPH controller. When a O_Disconnect event is associated with an established conference call, such as MADN Bridging, 3WC or FlexCall, CPH multi-conferencing is not supported except in the following: • A MADN bridged member is allowed to establish a 3WC conference. With the above exception, if a O_Disconnect event is associated with an established conference, such as MADN Bridging, 3WC or FlexCall, conference members are blocked from activating a conference. The following CPH multi-conference calls are blocked: • FlexCall-MADN Bridging • FlexCall-3WC • FlexCall-FlexCall • MADN Bridging-FlexCall • MADN Bridging-MADN Bridging • 3WC-FlexCall • 3WC-MADN Bridging • 3WC-3WC

Table 52 Event interactions with MADN SCA and SCA Bridging

Event	Status	Interactions
O_Disconnect_Called	PS	For all two-party scenarios comprised of a MADN SCA member and an external party, standard O_Disconnect_Called behavior applies. When a MADN SCA member is an O_Disconnect_Called controller and another MADN member tries to bridge into the call, the bridge attempt will be blocked since a MADN member cannot simultaneously be a bridge controller and a CPH controller. When an external party calls a MADN SCA group arming the O_Disconnect_Called event and the call is answered, the event will be detected when all bridged MADN members go onhook. When a O_Disconnect_Called event is associated with an established conference call, such as MADN Bridging, 3WC or FlexCall, CPH multi-conferencing is not supported except in the following: • A MADN bridged member is allowed to establish a 3WC conference. With the above exception, if a O_Disconnect_Called event is associated with an established conference, such as MADN Bridging, 3WC or FlexCall, conference members are blocked from activating a conference. The following CPH multi-conference calls are blocked: • FlexCall-MADN Bridging • FlexCall-3WC • FlexCall-FlexCall • MADN Bridging-FlexCall • MADN Bridging-MADN Bridging • 3WC-FlexCall • 3WC-MADN Bridging • 3WC-3WC

Table 52 Event interactions with MADN SCA and SCA Bridging

Event	Status	Interactions
Timeout	PS	For all two-party scenarios comprised of a MADN SCA member and an external party, standard Timeout behavior applies. When a MADN SCA member is a Timeout controller and another MADN member tries to bridge into the call, the bridge attempt will be blocked since a MADN member cannot simultaneously be a bridge controller and a CPH controller. When an originating party terminates to a MADN SCA group arming Timeout in the process, the terminating MADN group is allowed to bridge since the originating party is the CPH controller and the terminating MADN group contains the bridge controller. The CPH and bridge controllers are not the same party. When a Timeout event is associated with an established conference call, such as MADN Bridging, 3WC or FlexCall, CPH multi-conferencing is not supported except in the following: • A MADN bridged member is allowed to establish a 3WC conference. With the above exception, if a O_Disconnect event is associated with an established conference, such as MADN Bridging, 3WC or FlexCall, conference members are blocked from activating a conference. The following CPH multi-conference calls are blocked: • FlexCall-MADN Bridging • FlexCall-3WC • FlexCall-FlexCall • MADN Bridging-FlexCall • MADN Bridging-MADN Bridging • 3WC-FlexCall • 3WC-MADN Bridging • 3WC-3WC

1.10.4.3 Other interactions with MADN SCA and SCA Bridging

Table 53 provides other interactions with MADN SCA and SCA Bridging.

Table 53 Other interactions with MADN SCA and SCA Bridging

<table>
<tr><th>Description</th><th>Status</th><th>Interactions</th></tr>
<tr><td>CallingPartyID</td><td>PS</td><td>Since a MADN group can have many members, the MADN is datafilled in table DNATTRS as being non-unique. As a result, a MADN origination is identified as a non-unique national number in the Nature of Number field of the CallingPartyID parameter in the AIN query message.

AIN CallingPartyID is not supported on MADN SCA and SCA Bridging.</td></tr>
<tr><td>Collect_Information</td><td>S</td><td>When the CollectedDigits parameter contains digits that correspond to a MADN group, then the call will terminate on the MADN group.</td></tr>
<tr><td>DisplayText</td><td>S</td><td>When received, DisplayText displays on all ringing sets in a MADN group, and once picked up, only on the active MADN member.

All MADN agents that bridge into a call receive AIN DisplayText.</td></tr>
<tr><td>Offer_Call</td><td>S</td><td>For IBN and 500/2500 series set, CWT can not be activated while in MADN bridging.Therefore parameter BusyType in T_Busy query is populated with CallCannotBeOffered.

When the SSP receives an Offer_Call response to T_Busy query, the Call is offered when CWT and T_Busy trigger/event is subscribed to by the same member.</td></tr>
<tr><td>OriginalCalledPartyID</td><td>S</td><td rowspan="2">A MADN termination is identified as a non-unique national number in the Nature of Number field of the OriginalCalledPartyID or RedirectingPartyID parameter</td></tr>
<tr><td>RedirectingPartyID</td><td>S</td></tr>
<tr><td>Subscription</td><td>S</td><td>Support for subscription of MADN lines to the AIN option is provided through tables IBNFEAT or KSETFEAT, while subscription to the AINDN option is provided through table DNFEAT.</td></tr>
</table>

Table 53 Other interactions with MADN SCA and SCA Bridging (Continued)

Description	Status	Interactions
TRAVER	PS	The TRAVER tool only shows AIN Off-Hook_Immediate and Off-hook_Delay triggers on a MADN line when AIN is assigned to the primary LEN or LTID.
Create_Call	S	When the CallingPartyID included in the Create_Call message maps to a MADN group, the Create_Call request is rejected by sending the SCP a failure message with failureCause=inappropriateUserInterface. When the CalledPartyID included in the Create_Call message maps to a MADN group, the call terminates on the MADN group.

1.10.5 Electronic key telephone service

Electronic key telephone service (EKTS) is a set of services for ISDN voice terminals on a basic rate interface (BRI). EKTS provides shared DNs and MADN SCA and SCA Bridging on these DNs.

1.10.5.1 Trigger interactions with EKTS

Table 54 provides trigger interactions with EKTS

Table 54 Trigger interactions with EKTS

Trigger	Status	Interactions
AFR	S	A call that encounters these triggers can terminate on a MADN group. A call originated by MADN can hit these triggers.
CDP	S	
International	S	
N11	S	
O_CPB	S	This trigger is hit when all members of a MADN group are busy.
O_NoA	S	The O_NoA trigger is encountered on a call when all members of a MADN group don’t answer.
OHD	S	A call that encounters these triggers can terminate on a MADN group. A call originated by MADN can hit these triggers.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	

Table 54 Trigger interactions with EKTS

Trigger	Status	Interactions
PRIB	S	A call that encounters this trigger can terminate on a MADN group.
SDS	S	A call that encounters this trigger can terminate on a MADN group. A call originated by MADN can hit this trigger.
SFC	S	
SIT	S	A call that encounters this trigger can terminate on a MADN group.
Specified_Carrier	S	A call that encounters this trigger can terminate on a MADN group. A call originated by MADN can hit this trigger.
T_Busy	S	T_Busy is encountered when all members of the group are busy.
T_NoA	S	T_NoA can be hit when no MADN members answer.
TAT	S	A call that encounters this trigger can terminate on a MADN group. A call originated by MADN can hit this trigger.
TRA	S	Trigger TRA can be encountered when the MADN SCA bridged DN is available.
TKTERM	N/A	

1.10.5.2 Event interactions with EKTS

Table 55 provides event interactions with EKTS.

Table 55 Event interactions with EKTS

Event	Status	Interactions
Network_Busy	S	This event can be armed and detected on calls to and from MADN groups.
O_Answer	S	
O_CPB	S	
O_NoA	S	
T_Answer	S	
T_Busy	S	
T_NoA	S	

1.10.5.3 Other interactions with EKTS

Table 56 provides other interactions with EKTS.

Table 56 Other interactions with EKTS

Description	Status	Interactions
TRAVER	PS	The TRAVER tool only shows AIN Off-Hook_Immediate and Off-hook_Delay triggers on a MADN line when AIN is assigned to the primary LEN or LTID.
CallingPartyID	PS	Since a MADN group can have many members, the MADN is datafilled in table DNATTRS as being non-unique. As a result, a MADN origination is identified as a non-unique national number in the Nature of Number field of the CallingPartyID parameter in the AIN query message. AIN CallingPartyID is not supported on MADN EKTS.
OriginalCalledPartyID	S	A MADN termination is identified as a non-unique national number in the Nature of Number field of the OriginalCalledPartyID or RedirectingPartyID parameter
RedirectingPartyID	S	
Subscription	S	Support for subscription of MADN lines to the AIN option is provided through tables IBNFEAT or KSETFEAT, while subscription to the AINDN option is provided through table DNFEAT.
Offer_Call	S	For IBN and 500/2500 series set, CWT can not be activated while in MADN bridging.Therefore parameter BusyType in T_Busy query is populated with CallCannotBeOffered. When the SSP receives an Offer_Call response to T_Busy query, the Call is offered when CWT and T_Busy trigger/event is subscribed to by the same member.
Collect_Information	S	When the CollectedDigits parameter contains digits that correspond to a MADN group, then the call will terminate on the MADN group.
DisplayText	S	When received, DisplayText displays on all ringing sets in a MADN group, and once picked up, only on the active MADN member. A call restored from MADN hold to an ISDN set will not have the CallingPartyName AIN DisplayText information restored.

1.10.6 Executive busy override on MADN

Executive busy override on MADN (EBOM) allows a caller with the EBO feature to barge in on a call involving MADN SCA and SCA Bridging or MCA, provided the calling and called party are in the same customer group.

Note: EBOM cannot be activated when there are MADN SCA and SCA Bridging members already bridged into the call. NACK treatment is applied in this case.

1.10.6.1 Trigger interactions with EBOM

Table 57 provides trigger interactions with EBOM.

Table 57 Trigger interactions with EBOM

Trigger	Status	Interactions
AFR	S	A call made from a line with the EBOM option to a MADN encounters all applicable AIN triggers. No AIN triggers are hit during the EBOM call.
CDP	S	
International	S	
N11	S	
O_CPB	UU	Not applicable
O_NoA	UU	
OHD	S	A call made from a line with the EBOM option to a MADN encounters all applicable AIN triggers. No AIN triggers are hit during the EBOM call.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	NA	EBOM is not supported on PRI agents.
SDS	PS	A call made from a line with the EBOM option to a MADN encounters all applicable AIN triggers. EBOM is not permitted when SDS is encountered. No AIN triggers are hit during the EBOM call.
SFC	S	A call made from a line with the EBOM option to a MADN encounters all applicable AIN triggers. No AIN triggers are hit during the EBOM call.
SIT	NA	EBOM is not supported on trunk agents.
Specified_Carrier	S	A call made from a line with the EBOM option to a MADN encounters all applicable AIN triggers. No AIN triggers are hit during the EBOM call.
T_Busy	UU	Not applicable
T_NoA	UU	

Table 57 Trigger interactions with EBOM (Continued)

Trigger	Status	Interactions
O_Disconnect	S	Same as EBO
O_Disconnect_Called	S	
Timeout	S	
TAT	S	A call made from a line with the EBOM option to a MADN encounters all applicable AIN triggers. No AIN triggers are hit during the EBOM call.
TRA	S	No AIN triggers are hit during an EBOM call.
TKTERM	N/A	

1.10.6.2 Event interactions with EBOM

No triggers are encountered on an EBOM call, therefore, no events can be armed or detected.

1.10.6.3 Other interactions with EBOM

Table 58 provides other interactions with EBOM.

Table 58 Other interactions with EBOM

Description	Status	Interactions
Analyze Route	UU	EBOM is permitted with private translations only. EBOM is not permitted when an AIN call terminates to a talking party through analyze route or forward call responses since these responses provide the SSP with public 10-digit numbers. EBOM is not permitted when SDS is encountered.
Forward Call	UU	
DisplayText	S	When received, DisplayText does not display on a barger and is not displayed on the MADN member(s) during barging. Rather, the DN of the barger is displayed. The CallingAddress, but not the CallingName is returned to the MADN active sets, when the barger leaves the call.

1.10.7 MADN hold

MADN hold is the default call hold capability for MADN groups.

1.10.7.1 Trigger interactions with MADN hold

Table 59 provides trigger interactions with MADN hold.

Table 59 Trigger interactions with MADN hold

Trigger	Status	Interactions
AFR	S	A call routed with AIN can be placed on hold. No AIN triggers are encountered when placing a call on hold or when releasing a held call.
CDP	S	
International	S	
N11	S	
O_CPB	S	
O_NoA	S	
OHD	S	
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	S	
T_NoA	S	
TAT	S	
TRA	S	No AIN triggers are encountered when placing a call on hold or when releasing a held call.
TKTERM	N/A	

1.10.7.2 Event interactions with MADN hold

Table 60 provides event interactions with MADN hold.

Table 60 Event interactions with MADN hold

Event	Status	Interactions
Network_Busy	S	Calls that arm or detect these events can be placed on hold. Since no AIN triggers can be hit when placing a call on hold or when releasing a held call, no AIN events can be armed or detected when activating this feature.
O_Answer	S	
O_CPB	S	
O_CPB	S	
O_NoA	S	
T_Answer	S	
T_Busy	S	
T_NoA	S	
O_Disconnect	PS	When a MADN member originates a call to an external party and the O_Disconnect event is armed, MADN Hold activation will be blocked since a MADN member cannot simultaneously be a MADN Hold controller and a CPH controller. When an external party calls a MADN group and arms an O_Disconnect event in the process, the O_Disconnect event will be detected when the external party goes onhook regardless of the number of times the terminating MADN group has put the call on MADN Hold and retrieved it. When the external party is given AIND or AINF treatment, a MADN Hold call cannot be retrieved.

Table 60 Event interactions with MADN hold (Continued)

Event	Status	Interactions
O_Disconnect_Called	PS	When a MADN member originates a call to an external party and the O_Disconnect_Called event is armed, MADN Hold activation will be blocked since a MADN member cannot simultaneously be a MADN Hold controller and a CPH controller. When an external party calls a MADN group and arms an O_Disconnect_Called event in the process, the O_Disconnect_Called event will be detected when the last active MADN member goes onhook regardless of the number of times the call has been put on MADN hold and retrieved. When the external party is given AIND or AINF treatment, a MADN Hold call cannot be retrieved.
Timeout	PS	When a MADN member originates a call to an external party and then Timeout event is armed, MADN Hold activation will be blocked since a MADN member cannot simultaneously be a MADN Hold controller and a CPH controller. When an external party calls a MADN group and arms a Timeout event in the process, the Timeout event will be detected when the last active MADN member goes onhook regardless of the number of times the call has been put on MADN hold and retrieved. When the external party is given AIND or AINF treatment, a MADN Hold call cannot be retrieved.

1.10.7.3 Other interactions with MADN hold

Table 61 provides other interactions with MADN hold.

Table 61 Other interactions with EBOM

Description	Status	Interactions
DisplayText	S	When received, DisplayText does not display when a set is on hold. It returns to the MADN set that removes the call from hold. A call restored from MADN hold to an ISDN set will not have the CallingPartyName AIN DisplayText information restored.

1.10.8 MADN lamp

The MADN lamp (MLAMP) option is recommended for MADN groups that need to know when a call is bridged or on hold and thus available to other MADN group members. When a call is not bridged and the MADN group member invokes autohold, the lamp winks, indicating that the call is on hold and any MADN group member can pick up the call.

1.10.8.1 Trigger interactions with MLAMP

Table 62 provides trigger interactions with MLAMP.

Table 62 Trigger interactions with MLAMP

Trigger	Status	Interactions
AFR	S	All applicable triggers are hit when originating from or terminating to a MADN group with the MLAMP option.
CDP	S	
International	S	
N11	S	
O_CPB	S	
O_NoA	S	
OHD	S	
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	S	
T_NoA	S	
TAT	S	
TRA	S	Trigger TRA can be encountered when calling a MADN group with the MLAMP option.
TKTERM	N/A	

1.10.8.2 Event interactions with MLAMP

Table 63 provides event interactions with MLAMP follow.

Table 63 Event interactions with MLAMP

Event	Status	Interactions
Network_Busy	S	All applicable events can be armed and detected when originating from or terminating to a MADN group with the MLAMP option.
O_Answer	S	
O_CPB	S	
O_NoA	S	
T_Answer	S	
T_Busy	S	
T_NoA	S	

1.10.9 MADN privacy and privacy release

MADN privacy (PRV) is a feature that applies to all SCA lines that have bridging capability and an initial privacy status of NONPRIVATE. This feature generally applies to MADN EXB.

MADN privacy release (PRL) is a feature that applies to all SCA lines that have bridging capability and an initial privacy status of PRIVATE.

1.10.9.1 Trigger interactions with MADN PRV and PRL

Table 64 provides trigger interactions with MADN PRV and PRL.

Table 64 Trigger interactions with MADN PRV and PRL

Trigger	Status	Interactions
AFR	S	Calls that hit these triggers can terminate to a MADN group with PRV/PRL. No triggers are hit when activating PRV/PRL. No triggers are encountered when bridging into a call.
CDP	S	
International	S	
N11	S	
O_CPB	UU	Not applicable
O_NoA	UU	

Table 64 Trigger interactions with MADN PRV and PRL (Continued)

Trigger	Status	Interactions
OHD	S	Calls that hit these triggers can terminate to a MADN group with PRV/PRL. No triggers are hit when activating PRV/PRL. No triggers are encountered when bridging into a call.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	UU	Not applicable
T_NoA	UU	
TAT	S	Calls terminating to a MADN group with PRV/PRL option do encounter the AIN Termination_Attempt trigger assigned to the MADN. No triggers are hit when activating PRV/PRL. No triggers are encountered when bridging into a call.
TRA	UU	Not applicable Calls terminating to a MADN group with the PRV/PRL option can encounter the AIN Term_Resource_available trigger assigned to the MADN. No triggers are hit when activating PRV/PRL. No triggers are encountered when bridging into a call.
TKTERM	N/A	

1.10.9.2 Event interactions with MADN PRV and PRL

Table 65 provides event interactions with MADN PRV and PRL.

Table 65 Event interactions with MADN PRV and PRL

Event	Status	Interactions
Network_Busy	S	For all NELs, calls that arm and detect this event these events can terminate to a MADN group with PRV/PRL. Since no triggers are hit when activating PRV/PRL, no events can be armed and detected.
O_Answer	S	
O_CPB	S	
O_NoA	S	
T_Answer	S	
T_Busy	S	
T_NoA	S	

1.10.10 MADN release

In a typical MADN SCA and SCA Bridging call scenario, multiple MADN members are involved in a bridged call with an external party. When the external party disconnects, the MADN members remain in a bridged call. MADN release (MREL) changes this functionality such that when the external party disconnects, the bridge is taken down and the MADN members are automatically disconnected.

1.10.10.1 Trigger interactions with MREL

Table 66 provides trigger interactions with MREL.

Table 66 Trigger interactions with MREL

Trigger	Status	Interactions
AFR	S	Calls to or from a MADN with MREL do encounter all applicable triggers.
CDP	S	
International	S	
N11	S	
O_CPB	UU	Not applicable
O_NoA	UU	

Table 66 Trigger interactions with MREL (Continued)

Trigger	Status	Interactions
OHD	S	Calls to or from a MADN with MREL do encounter all applicable triggers.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	UU	Not applicable
T_NoA	UU	
TAT	S	Calls to or from a MADN with MREL do encounter all applicable triggers.
TRA	UU	Not applicable
TKTERM	N/A	

1.10.10.2 Event interactions with MREL

Table 67 provides event interactions with MREL.

Table 67 Event interactions with MREL

Event	Status	Interactions
Network_Busy	S	Calls to or from a MADN with MREL do encounter all applicable events.
O_Answer	S	
O_CPB	S	
O_NoA	S	
T_Answer	S	
T_Busy	S	
T_NoA	S	
O_Disconnect	PS	When a Disconnect response is received in response to a O_Disconnect EDP-R and the Disconnect response processing tries to disconnect a bridged MADN group, the bridged MADN group stays up unless MREL is provisioned against the MADN group. If MREL is provisioned against the MADN group, the entire bridge comes down.
O_Disconnect_Called	PS	When a Disconnect response is received in response to a O_Disconnect_Called EDP-R and the Disconnect response processing tries to disconnect a bridged MADN group, the bridged MADN group stays up unless MREL is provisioned against the MADN group. If MREL is provisioned against the MADN group, the entire bridge comes down.
Timeout	PS	When a Disconnect response is received in response to a Timeout EDP-R and the Disconnect response processing tries to disconnect a bridged MADN group, the bridged MADN group stays up unless MREL is provisioned against the MADN group. If MREL is provisioned against the MADN group, the entire bridge comes down.

1.10.11 MADN ring forward

MADN ring forward (MRF) provides more ringing options to an SCA MADN group. Its purpose is to assure users of thorough telephone-answering coverage.

1.10.11.1 Trigger interactions with MRF

Table 68 provides trigger interactions with MRF.

Table 68 Trigger interactions with MRF

Trigger	Status	Interactions
AFR	S	Calls to or from a MADN with MRF do encounter all applicable triggers.
CDP	S	
International	S	
N11	S	
O_CPB	UU	Not applicable
O_NoA	UU	
OHD	S	Calls to or from a MADN with MRF do encounter all applicable triggers.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	UU	Not applicable
T_NoA	UU	
TAT	S	Calls to or from a MADN with MRF do encounter all applicable triggers.
TRA	UU	Not applicable Calls to or from a MADN with MREL can encounter trigger TRA.
TKTERM	N/A	

1.10.11.2 Event interactions with MRF

Table 69 provides event interactions with MRF.

Table 69 Event interactions with MRF

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.10.11.3 Other interactions with MRF

Table 70 provides other interactions with MRF.

Table 70 Other interactions with MRF

Description	Status	Interactions
ControllingLegTreatment	PS	When an AIN call terminates to a MADN group with MRF and a Controlling or Passive Leg treatment has been received with a distinctive ringing pattern, then this pattern is applied to the MADN sets, but does not override BRI ringing patterns.
Passive LegTreatment	PS	
DisplayText	S	DisplayText is not propagated to the forwarded-to DN.

1.10.12 Secondary MADN call forwarding

Secondary MADN call forwarding (CFMDN) enables secondary members of a MADN group to activate or deactivate call forwarding (CFW) from their sets. When this feature is activated by any member, the entire key list of the primary MADN member is forwarded to the specified directory number.

Call forward validation provides a means of verifying that a DN has been successfully forwarded when call forwarding is activated

1.10.12.1 Trigger interactions with CFMDN

Table 71 provides trigger interactions with CFMDN.

Table 71 Trigger interactions with CFMDN

Trigger	Status	Interactions
AFR	S	When termination validation is specified for the customer group, then when a secondary member activates CFMDN, a call is attempted to the forwarded-to DN. In this case, originating AIN triggers assigned to the secondary are encountered when attempting to validate the call.
CDP	S	
International	S	
N11	PS	When termination validation is specified for the customer group, then when a secondary member activates CFMDN, a call is attempted to the forwarded-to DN. In this case, originating AIN triggers assigned to the secondary are encountered when attempting to validate the call. See restriction chapter.
O_CPB	UU	Not applicable
O_NoA	UU	
OHD	S	When termination validation is specified for the customer group, then when a secondary member activates CFMDN, a call is attempted to the forwarded-to DN. In this case, originating AIN triggers assigned to the secondary are encountered when attempting to validate the call.
OHI	UU	Not applicable
One_Plus_Prefix	S	When termination validation is specified for the customer group, then when a secondary member activates CFMDN, a call is attempted to the forwarded-to DN. In this case, originating AIN triggers assigned to the secondary are encountered when attempting to validate the call.
Operator_Services	S	
PFC	S	
PRIB	NA	CFMDN is not supported on PRI agents.
SDS	S	When termination validation is specified for the customer group, then when a secondary member activates CFMDN, a call is attempted to the forwarded-to DN. In this case, originating AIN triggers assigned to the secondary are encountered when attempting to validate the call.
SFC	S	
SIT	NA	CFMDN is not supported on trunk agents.

Table 71 Trigger interactions with CFMDN (Continued)

Trigger	Status	Interactions
Specified_Carrier	S	When termination validation is specified for the customer group, then when a secondary member activates CFMDN, a call is attempted to the forwarded-to DN. In this case, originating AIN triggers assigned to the secondary are encountered when attempting to validate the call.
T_Busy	S	When termination validation is specified for the customer group, then when a secondary member activates CFMDN, these triggers can be hit.
T_NoA	S	
TAT	S	
TRA	UU	Not applicable Secondary MADN call forwarding feature takes precedence over trigger TRA.
TKTERM	N/A	

1.10.12.2 Event interactions with CFMDN

Table 72 provides event interactions with CFMDN.

Table 72 Event interactions with CFMDN

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.10.13 MADN MEMDISP and MEMNAME

The following sections describe interactions with MADN MEMDISP and MEMNAME.

1.10.13.1 Trigger interactions with MADN MEMDISP and MEMNAME

Table 73 provides trigger interactions with MADN MEMDISP and MEMNAME.

Table 73 Trigger interactions with MADN MEMDISP and MEMNAME

Trigger	Status	Interactions
AFR	UU	Not applicable
CDP	UU	
International	UU	
N11	UU	
O_CPB	UU	
O_NoA	UU	
OHD	UU	
OHI	UU	
One_Plus_Prefix	UU	
Operator_Services	UU	
PFC	UU	
PRIB	UU	
SDS	UU	
SFC	UU	
SIT	UU	
Specified_Carrier	UU	
T_Busy	UU	
T_NoA	UU	
TAT	UU	
TRA	UU	
TKTERM	N/A	

1.10.13.2 Event interactions with MADN MEMDISP and MEMNAME

Table 74 provides event interactions with MADN MEMDISP and MEMNAME.

Table 74 Event interactions with MADN MEMDISP and MEMNAME

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.10.13.3 Other interactions with MADN MEMDISP and MEMNAME

Table 75 provides other interactions with MADN MEMDISP and MEMNAME.

Table 75 Other interactions with MADN MEMDISP and MEMNAME

Description	Status	Interactions
DisplayText	S	AIN DisplayText overrides MEMDISP and MEMNAME. When received, DisplayText displays on all ringing sets in a MADN group, and once picked up, only on the active MADN member.

1.11 No double connect

The no double connect (NDC) option prevents a line from being connected to a verification, test circuit, or a conference circuit when it is offhook.

1.11.1 Trigger interactions with NDC

Table 76 provides trigger interactions with NDC.

Table 76 Trigger interactions with NDC

Trigger	Status	Interactions
AFR	S	Calls to and from a line with NDC can encounter all AIN triggers. NDC functionality is not impacted.
CDP	S	
International	S	
N11	S	
O_CPB	S	
O_NoA	S	
OHD	S	
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	S	
T_NoA	S	
TAT	S	
TRA	S	Calls to and from a line with NDC can encounter the Term_Resource_available trigger.
TKTERM	N/A	

1.11.2 Event interactions with NDC

Table 77 provides event interactions with NDC. All events can be encountered, however, they do not affect the functionality of NDC.

Table 77 Event interactions with NDC

Event	Status	Interactions
Network_Busy	S	Calls to and from a line with NDC can arm/detect all AIN events. NDC functionality is not impacted.
O_Answer	S	
O_CPB	S	
O_CPB	S	
O_NoA	S	
T_Answer	S	
T_Busy	S	
T_NoA	S	

1.11.3 Other interactions with NDC

Table 78 provides other interactions with NDC.

Table 78 Other interactions with NDC

Description	Status	Interactions
Offer_Call	S	The Offer_Call response will not be processed when NDC is engaged on the call.

1.12 Network access registers

The following section describes interactions with network access registers (NARS).

1.12.1 Trigger interactions with NARS

Table 79 provides trigger interactions with NARS.

Table 79 Trigger interactions with NARS

Trigger	Status	Interactions
AFR	UU	Not applicable
CDP	UU	
International	UU	
N11	UU	
O_CPB	UU	
O_NoA	UU	
OHD	UU	
OHI	UU	
One_Plus_Prefix	UU	
Operator_Services	UU	
PFC	UU	
PRIB	UU	
SDS	UU	
SFC	UU	
SIT	UU	
Specified_Carrier	UU	
T_Busy	UU	
T_NoA	UU	
TAT	UU	
TRA	UU	
TKTERM	UU	

1.12.2 Event interactions with NARS

Table 80 provides event interactions with NARS.

Table 80 Event interactions with NARS

Event	Status	Interactions
Network_Busy	S	When the Network_Busy event is armed and the NARS (NARS) feature blocks the call anywhere in the network, the Network_Busy event is detected.
O_Answer	UU	Not applicable
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.13 Network Facility Access

Network Facility Access (NFA) provides a direct connection between a subscriber line and an intelligent processor (IP). This ability provides the subscriber access to services provided directly by the IP. The connection can either be through implicit (auto) access or explicit (dialed) access.

With implicit access, the subscriber is directly connected to the IP simply by going off hook. With this method, the subscriber may interact with the IP or may revert to regular call processing by dialing as normal.

With explicit access, the subscriber must first dial an NFA explicit access code. Once the connection to the IP is established, the subscriber may then interact with the IP. During this interaction, the subscriber may enter digits for the IP to interpret; if these digits are dial pulse (DP), they are converted to dual-tone multifrequency (DTMF) digits by the DMS before being relayed to the IP. This functionality is called DP conversion.

NFA provides extended DP conversion for explicit connection. Whenever extended conversion is activated on an explicit connection to an NFA trunk, it will remain in effect throughout both the explicit connection and any call which the IP might dial for the subscriber.

1.13.1 Feature interactions with NFA explicit connection

Table 81 provides event interactions with NFA explicit connection.

Table 81 Feature interactions with NFA explicit connection

Feature	Status	Interactions
DPConverter	S	**Originating/terminating call model STR-IP interactions** • When the NFA has started the extended DP conversion and the DPConverter parameter set to FALSE is received in the subsequent STR-IP message, the DP conversion is stopped during IP conversation. The extended DP conversion is restarted after the IP conversation is over. **Terminating call model STR-IP limitations** When all of the following four conditions hold: • office not subscribed to AIN • customer group of the originating line not subscribed to AIN • individual triggers not subscribed to the originating agent • the NFA has started the extended DP conversion There are two possible outcomes, depending on the value of the DP converter parameter received in the subsequent STR/IP message in response to any terminating basic call model trigger/query. • When the DPConverter parameter set to TRUE is received, the DP conversion is stopped after the STR-IP connection is terminated. • When the DPConverter parameter set to FALSE is received, the DP conversion is not stopped for the IP conversation and for the call towards the terminating access. **Collect_Info interaction** • When the NFA has started the extended DP conversion and the DPConverter parameter set to FALSE is received in the subsequent Collect_Info message, then the DP conversion is stopped.

1.14 Operations, administration and maintenance features

This section describes interactions with operations, administration and maintenance features.

1.14.1 Customer data change

The customer data change (CDC) feature allows the operating company to allow end user access to certain DMS table data.

1.14.1.1 Trigger interactions with CDC

Table 82 provides trigger interactions with CDC.

Table 82 Trigger interactions with CDC

Trigger	Status	Interactions
AFR	NA	CDC fuctionality is not invoked at CallP time. CDC does not interact with AIN triggers.
CDP	NA	
International	NA	
N11	NA	
O_CPB	NA	
O_NoA	NA	
OHD	NA	
OHI	NA	
One_Plus_Prefix	NA	
Operator_Services	NA	
PFC	NA	
PRIB	NA	
SDS	NA	
SFC	NA	
SIT	NA	
Specified_Carrier	NA	
T_Busy	NA	
T_NoA	NA	
TAT	NA	
TRA	NA	
TKTERM	N/A	

1.14.1.2 Event interactions with CDC

Table 83 provides event interactions with CDC.

Table 83 Event interactions with CDC

Event	Status	Interactions
Network_Busy	NA	CDC fuctionality is not invoked at CallP time and does not interact with AIN events.
O_Answer	NA	
O_CPB	NA	
O_NoA	NA	
T_Answer	NA	
T_Busy	NA	
T_NoA	NA	

1.14.1.3 Other interactions with CDC

Table 84 provides other interactions with CDC.

Table 84 Other interactions with CDC

Description	Status	Interactions
SERVORD	S	CDC functionality is allowed for both AIN table datafill and AIN SERVORD commands. Tables TRIGINFO, TRIGGRP, TRIGESC, TRIGDIG, and TRGSIESC are accessible to CDC users, given the proper privilege class permissions. The trigger tables are not part of the partitioned table editor (PTE). That is, when a CDC user has access to the table, then that user has access to all of the tuples within the table. DN/LEN ownership is enforced for CDC users when adding, changing, or deleting the AIN or AINDN line options.
Table control	S	

1.15 Private virtual networks

Private virtual networks (PVN) allows service providers to provide business customers with private network functionality that uses any combination of public network and leased facilities. The customers enjoy cost-effective, customized networks from their service provider with access on a per-call basis to any interexchange carrier or private virtual network for their interLATA needs.

1.15.1 Trigger interactions with PVN

Trigger interactions with PVN are currently unsupported and untested.

1.15.2 Event interactions with PVN

Event interactions with PVN are currently unsupported and untested.

1.15.3 Other interactions with PVN

Table 85 provides other interactions with PVN.

Table 85 Other interactions with PVN

Description	Status	Interactions
Create_Call	S	When routing to the called party, an attempt to start the PVN feature results in the call going to FNAL treatment.
TRA trigger	PS	Trigger TRA can be encountered after the PVN trigger but not before.

1.16 Primary rate interface features

This section addresses the following features:

- ISDN PRI calling name delivery (I-CNAM)
- two B channel transfer (TBCT)
- PRI-E911

1.16.1 ISDN PRI calling name delivery

ISDN PRI calling name delivery (I-CNAM) provides the calling party's name for delivery when terminating to a PRI trunk.

The calling party's name is obtained using one of the following methods:

- retrieved from the ISDN IAM message
- retrieved from a local table lookup (using the calling party's DN as the key)
- retrieved from a centralized name database using TCAP messaging (using the calling party's DN as the key)

1.16.1.1 Trigger interactions with I-CNAM

Table 86 provides trigger interactions with I-CNAM.

Table 86 Trigger interactions with I-CNAM

Trigger	Status	Interactions
AFR	S	A call that hits these triggers can encounter I-CNAM.
CDP	S	
International	S	
N11	S	
O_CPB	S	
O_NoA	S	
OHD	S	
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	S	
T_NoA	S	
TAT	S	
TRA	UU	Not applicable
TKTERM	UU	

1.16.1.2 Event interactions with I-CNAM

Table 87 provides event interactions with I-CNAM.

Table 87 Event interactions with I-CNAM

Event	Status	Interactions
Network_Busy	S	There is no specific interactions between I-CNAM and AIN Events.
O_Answer	S	
O_CPB	S	
O_NoA	S	
T_Answer	S	
T_Busy	S	
T_NoA	S	

1.16.1.3 Other interactions with I-CNAM

Table 88 provides other interactions with I-CNAM.

Table 88 Other interactions with I-CNAM

Description	Status	Interactions
CallingPartyDN	S	When AIN occurs before I-CNAM then I-CNAM uses the calling party DN contained in the AIN response message to derive the calling party name. When the SCP response message does not contain a calling party DN, the original calling party DN is used to obtain the name. When the Presentation Indicator field in the AIN response is set to PresentationAllowed or PresentationRestricted, then this Presentation Indicator overrides the Presentation Indicator of the original calling party. When the Presentation Indicator field in the AIN response is set to NumberUnavailable then the Presentation indicator of the original calling party is used.

1.16.2 Two B-channel transfer

Two B-channel transfer (TBCT) allows a user (that is, controller) on an NI-2 PRI trunk to request the SSP to connect two independent calls on the user's interface. When the SSP accepts the request, the controller is released from the calls and the other two users are directly connected. The TBCT feature is associated with an ISDN PRI interface. The PRI interface can terminate on an intelligent peripheral (IP), a private branch exchange (PBX) or other customer premise equipment (CPE). In this document, the terminating equipment is called a controller regardless of whether it is an IP, PBX or other CPE.

In all cases where TBCT is denied, the return error component indicates invalid call state.

1.16.2.1 Trigger interactions with TBCT

Table 89 provides trigger interactions with TBCT.

Table 89 Trigger interactions with TBCT

Trigger	Status	Interactions
AFR	S	A call that hits this trigger can be transferred by TBCT.
CDP	S	
International	S	
N11	S	
O_CPB	S	
O_NoA	PS	When the O_No_Answer trigger is active, TBCT requests received before the NoAnswer timer expires transfer the calls; the O_No_Answer trigger is not hit.
OHD	S	A call that hits this trigger can be transferred by TBCT.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	A call that hits this trigger can be transferred by TBCT. TBCT is denied when requested during processing of the PRIB trigger.
SDS	S	A call that hits this trigger can be transferred by TBCT.
SFC	S	A call that hits this trigger can be transferred by TBCT.
SIT	S	
Specified_Carrier	S	
T_Busy	S	
T_NoA	PS	When the T_No_Answer trigger is active, TBCT requests received before the NoAnswer timer expires transfer the calls and the T_No_Answer trigger is not hit.

Table 89 Trigger interactions with TBCT (Continued)

Trigger	Status	Interactions
TAT	S	A call that hits this trigger can be transferred by TBCT.
TRA	S	A call that encounters trigger TRA can be transferred by TBCT.
TKTERM	U	

1.16.2.2 Event interactions with TBCT

Table 90 provides event interactions with TBCT.

Table 90 Event interactions with TBCT

Event	Status	Interactions
CPH	U	When CPH NEL is active and a TBCT request is detected, then a Close message will be sent to the SCP and NEL will deactivate itself.
Network_Busy	PS	When a NEL is active and the TBCT feature is requested, then a close message is sent to the SCP and the NEL deactivates itself.
O_Answer	PS	
O_CPB	PS	
O_NoA	PS	
T_Answer	PS	
T_Busy	PS	
T_NoA	PS	

1.16.2.3 Other interactions with TBCT

Table 91 provides other interactions with TBCT.

Table 91 Other interactions with TBCT

Description	Status	Interactions
Collect_Information	PS	When the TBCT feature is requested during Collect_Information message processing it is denied and the processing of the Collect_Information message continues.
SCP responses	PS	TBCT is denied when the SSP is waiting for a response from the SCP.

Table 91 Other interactions with TBCT (Continued)

Description	Status	Interactions
Send_To_Resource	S	Send to resource (STR and STR-IP) denies TBCT while STR is active, since the call state is not valid for TBCT to activate.
DisplayText	S	AIN DisplayText is not affected by TBCT. AIN DisplayText is not overwritten or changed after TBCT is performed.

1.16.3 PRI-E911

1.16.3.1 Event interactions with PRI-E911

Table 90 provides event interactions with PRI-E911.

Table 92 Event interactions with PRI-E911

Event	Status	Interactions
CPH	S	The CPH (Timeout or O_Disconnect or O_Disconnect_Called) EDP-R message will not be sent for an E911 call.

1.17 RES simultaneous ringing

Simultaneous ringing (SimRing) allows a pre-defined group of up to 5 directory number (DNs) to be alerted simultaneously when a specific member of this group, referred to as the pilot DN (PDN), is called. The first alerted DN that answers the call is connected to the calling party, while calls to other member DNs are released.

AIN interactions with the SimRing feature are composed of two parts. The first part is between the caller and the Pilot DN. The second part is between the PILOT DN and the NPMDNs.

1.17.1 Trigger interactions with RES SimRing

Table 93 provides trigger interactions with RES SimRing.

Table 93 Trigger interactions with RES SimRing

Trigger	Status	Interactions
AFR	S	The caller to the pilot DN call leg: This trigger can be hit before encountering SimRing. The pilot DN to the NPMDNs call leg: This trigger can be encountered.
CDP	S	The caller to the pilot DN call leg: This trigger can be hit before encountering SimRing. The pilot DN to the NPMDNs call leg: CDP trigger (access code and extension only) can be encountered.

Table 93 Trigger interactions with RES SimRing (Continued)

Trigger	Status	Interactions
International	PS	The caller to the pilot DN call leg: This trigger can be hit before encountering SimRing. The pilot DN to the NPMDNs call leg: Unsupported untested.
N11	S	The caller to the pilot DN call leg: This trigger can be hit before encountering SimRing. The pilot DN to the NPMDNs call leg: This trigger can be encountered.
O_CPB	S	The caller to the pilot DN call leg: The state of the SimRing group is used instead of the PDN state. Trigger OCPB is only encountered when the PDN and all NPMDNs are busy. The pilot DN to the NPMDNs call leg: This trigger can be encountered.
O_NoA	S	The caller to the pilot DN call leg: AIN assumes the call is answered when either the NPMDN or the PDN answers the call. In other words, trigger ONOA is encountered when neither PDN nor NPMDN answer the call. The pilot DN to the NPMDNs call leg: This trigger can be encountered.
OHD	S	The caller to the pilot DN call leg: This trigger can be hit before encountering SimRing. The pilot DN to the NPMDNs call leg: This trigger can not be encountered.
OHI	S	
One_Plus_Prefix	PS	The caller to the pilot DN call leg: This trigger can be hit before encountering SimRing. The pilot DN to the NPMDNs call leg: Unsupported untested.
Operator_Services	PS	
PFC	S	The caller to the pilot DN call leg: This trigger can be hit before encountering SimRing. The pilot DN to the NPMDNs call leg: This trigger can not be encountered.
PRIB	S	
SDS	S	The caller to the pilot DN call leg: This trigger can be hit before encountering SimRing. The pilot DN to the NPMDNs call leg: This trigger can be encountered.

Table 93 Trigger interactions with RES SimRing (Continued)

Trigger	Status	Interactions
SFC	S	The caller to the pilot DN call leg: This trigger can be hit before encountering SimRing. The pilot DN to the NPMDNs call leg: This trigger can not be encountered.
SIT	S	The caller to the pilot DN call leg: This trigger can be hit before encountering SimRing. The pilot DN to the NPMDNs call leg: This trigger can be encountered.
Specified_Carrier	PS	The caller to the pilot DN call leg: This trigger can be hit before encountering SimRing. The pilot DN to the NPMDNs call leg: Unsupported untested.
T_Busy	S	The caller to the pilot DN call leg: This trigger takes precedence over SimRing and proceeds regardless of the SimRing group state. It bases it's processing on only the PDN state. Simring is activated when the response is Continue. The pilot DN to the NPMDNs call leg: This trigger can be encountered.
T_NoA	S	The caller to the pilot DN call leg: AIN assumes the call is answered when either the NPMDN or the PDN answers the call. In other words, trigger TNOA is encountered when neither PDN nor NPMDN answer the call. The pilot DN to the NPMDNs call leg: This trigger can be encountered.
TAT	S	The caller to the pilot DN call leg: This trigger can be hit before encountering SimRing. The pilot DN to the NPMDNs call leg: This trigger can be encountered.
TRA	S	Trigger TRA takes precedence over Simring and triggers depending on the PDN state. The trigger can also be encountered in the pilot DN to the NPMDNs call leg.
TKTERM	N/A	

1.17.2 Event interactions with RES SimRing

Table 94 provides event interactions with RES SimRing.

Table 94 Event interactions with RES SimRing

Event	**Status**	Interactions
Network_Busy	S	The caller to the pilot DN call leg: This event can be armed and detected. The pilot DN to the NPMDNs call leg: This event can be armed and detected.
O_Answer	S	The caller to the pilot DN call leg: This event is detected when the PDN or NPMDN answers. The pilot DN to the NPMDNs call leg: This event can be armed and detected.
O_CPB	S	The caller to the pilot DN call leg: The state of the SimRing group is used. Therefore, O_CPB is only detected when the PDN and all the NPMDNs are busy. The pilot DN to the NPMDNs call leg: This event can be armed and detected.
O_NoA	S	The caller to the pilot DN call leg: This event is detected when neither the PDN nor the NPMDN answer the call. The pilot DN to the NPMDNs call leg: This event can be armed and detected.
T_Answer	S	The caller to the pilot DN call leg: This event is detected when either the PDN or NPMDN answers. The pilot DN to the NPMDNs call leg: This event can be armed and detected.
T_Busy	S	The caller to the pilot DN call leg: This event takes precedence over SimRing. It bases it’s processing on the PDN state only. SimRing is activated when the response is a Continue or Offer_Call. The pilot DN to the NPMDNs call leg: This event can be armed and detected.
T_NoA	S	The caller to the pilot DN call leg: This event is detected when neither the PDN nor the NPMDN answer the call. The pilot DN to the NPMDNs call leg: This event can be armed and detected.

1.17.3 Other interactions with RES SimRing

Table 95 provides other interactions with RES SimRing.

Table 95 Other interactions with RES SimRing

Description	Status	Caller to PDN	PDN to NPMDN
Analyze Route	S	When CalledPartyID is the PDN, then SIMRING is activated.	Call proceeds normally
Continue	S	For O_No_Answer and T_No_Answer triggers and events, the SimRing group continues to be alerted. For the TBUSY trigger and event, SimRing is not activated.	Call proceeds normally
Auth_term	S	The call terminates on the PDN and the group is alerted.	Call proceeds normally
Forward_Call	S	When the response is PDN, SimRing is activated.	Call proceeds normally
Disconnect	S	When received while the SimRing group is alerted, the group stops being alerted.	Call is released.
Cancel_Resource	S	Not applicable.	Not applicable.
Collect_Info	PS	Call proceeds normally.	Call is released.
STR	PS	Call proceeds normally	Call is released
Default Routing	PS	Call goes to default routing	Call is released.
Offer_Call	S	When the Calledpartyid is the PDN, then SimRing is activated.	Call proceeds normally
Note: “Call proceeds normally” indicates that the caller to PDN SCP response was processed correctly.			

Table 95 Other interactions with RES SimRing (Continued)

ExtendedRinging	S	When extended ringing is encountered, the SSP will send a Resource_Clear message with reason “abort” in response to an STR/IP message.	Call proceeds normally
Create_Call	S	When the CallingPartyID parameter in the Create_Call message contains the PDN, the PDN is alerted. When the CallingPartyID parameter in the Create_Call message contains the non primary DN, the non primary DN is alerted. When the CalledPartyID parameter in the Create_Call message is a pilot DN, SIMRING activates and the call proceeds normally.	Call proceeds normally
Note: “Call proceeds normally” indicates that the caller to PDN SCP response was processed correctly.			

1.18 Restrictions to dialing privileges

This section describes interactions with restrictions to dialing privileges features. See Table 180 “DMS-100 features” on page 720 for a complete list of restrictions to dialing privileges features.

1.18.1 Authorization codes

Authorization code features involve the reception of authorization code digits and called address digits. These features collect digits until the subscriber explicitly signals the end of dialing by keying in an octothorpe (#) or awaiting the expiry of inter-digit timeout

1.18.1.1 Trigger interactions with authorization codes

Table 96 provides trigger interactions with authorization codes.

Table 96 Trigger interactions with authorization codes

Trigger	Status	Interactions
AFR	S	Once the call progresses to a stable talking state, the user is able to flash and dial the feature access code (FAC) for the authorization code first (voluntary) feature without any triggering.

Table 96 Trigger interactions with authorization codes (Continued)

Trigger	Status	Interactions
CDP	S	Authorization code first (voluntary): When the user goes off-hook to originate a call, and dials the switch-based FAC that corresponds to the activation of the authorization code first feature, these triggers are encountered after the user enters the authorization code and the called number. When the authorization code feature user flashes during an active call and dials the switch-based FAC that corresponds to the activation of authorization code first feature, these triggers are not encountered after the user enters in the authorization code. The user can then hookflash back to the active call. Authorization code last: When the authorization code last feature user dials a number, these triggers are not encountered until after the authorization code has been collected.
International	S	
N11	S	
O_CPB	UU	Not applicable
O_NoA	UU	

Table 96 Trigger interactions with authorization codes (Continued)

Trigger	Status	Interactions
OHD	S	Authorization code first (voluntary): When an OFFHKDEL subscriber makes a call with the authorization code first voluntary feature and the call encounters trigger OFFHKDEL with an Analyze_Route response returned from the SCP, the “CLD NO” field in the SMDR record (when applicable) has the digits contained in the response parameter CalledPartyID. When the authorization code feature user goes offhook to originate a call, and then dials the switch-based feature access code (FAC) that corresponds to the activation of authorization codes first feature, the call escapes the OFFHKDEL trigger. After the user enters in the authorization code, and then the called number, trigger OFFHKDEL is encountered, when applicable to this call. When the authorization code feature user flashes during an active call, and then dials the switch-based feature access code (FAC) that corresponds to the activation of authorization codes First feature, the call escapes the OFFHKDEL trigger. After the user enters in the authorization code, the OFFHKDEL trigger is not encountered. The user can then hookflash back to the active call. Authorization code last: When the authorization code last (ACR) feature user dials a number, the OFFHKDEL trigger is not encountered until after the authorization code has been collected. When an OFFHKDEL subscriber makes a call with the ACR feature and the call hits the OFFHKDEL trigger with an Analyze_Route response returned from the SCP, the “CLD NO” field in the SMDR record (when applicable) contains the user dialed digits.
OHI	S	Authorization code first (voluntary): The origination of a new call, or a hook flash from a call in the talking state results in the OFFHKIMM trigger to be hit. Authorization code last: When the OFFHKIMM trigger is assigned to a line that also is assigned the authorization code feature, then the authorization code feature is bypassed for any originations from this line.

Table 96 Trigger interactions with authorization codes (Continued)

Trigger	Status	Interactions
One_Plus_Prefix	S	Authorization code first (voluntary): When the user goes offhook to originate a call, and dials the switch-based feature access code (FAC) that corresponds to the activation of authorization codes first feature, these triggers is encountered after the user enters the authorization code and the called number. When the authorization code feature user flashes during an active call, and then dials the switch-based feature access code (FAC) that corresponds to the activation of authorization codes First feature, after the user enters in the authorization code, these triggers are not encountered. The user can then hookflash back to the active call. Authorization code last: When the authorization code last (ACR) feature user dials a number, these triggers are not encountered until after the authorization code has been collected.
Operator_Services	S	
PFC	S	Authorization code first (voluntary): When the user goes offhook to originate a call, and dials the switch-based feature access code (FAC) that corresponds to the activation of authorization codes first feature, this trigger is encountered after the user enters the authorization code and the called number. When the authorization code feature user flashes during an active call, and then dials the switch-based feature access code (FAC) that corresponds to the activation of authorization codes First feature, after the user enters in the authorization code, this trigger is not encountered. The user can then hookflash back to the active call. Authorization code last: When the Authorization Code Last (ACR) feature user dials a number, the PFC trigger does not apply. The trigger does not occur, since the user dialed a regular number. When the authorization code Last (ACR) feature user dials a public feature code, the PFC trigger is encountered, and no authorization codes are collected.
PRIB	NA	Authorization codes cannot be assigned to a PRI agent.

Table 96 Trigger interactions with authorization codes (Continued)

Trigger	Status	Interactions
SDS	S	Authorization code first (voluntary): When the user goes offhook to originate a call, and dials the switch-based feature access code (FAC) that corresponds to the activation of authorization codes first feature, this trigger is encountered after the user enters the authorization code and the called number. When the authorization code feature user flashes during an active call, and then dials the switch-based feature access code (FAC) that corresponds to the activation of authorization codes First feature, after the user enters in the authorization code, this trigger is not encountered. The user can then hookflash back to the active call. Authorization code last: When the authorization code last (ACR) feature user dials a number, this trigger is not encountered until after the authorization code has been collected.
SFC	S	Authorization code first (voluntary): Prior to originating a call, the SFC trigger is not encountered upon entering the authorization code feature access code followed by the authorization code digits. The SFC trigger can be encountered on the dialed DN that follows. When hookflashing during a stable call, an authorization code user can hookflash during an active (talking) call and enter the feature access code followed by the authorization code digits. The SFC trigger is not encountered after entering the authorization code. Upon hookflashing the caller is returned to the active call. As this is past the Info_Analyzed TDP, trigger SFC cannot be encountered. The feature is activated by entering a feature access code then the authorization code. Authorization code digits are not sent to the SCP. Authorization code last: For the authorization code last (ACR) feature, when the dialed number corresponds to an SFC feature access code, the SFC trigger is encountered and the authorization code is not collected.
SIT	NA	Authorization codes are not supported on trunk agents.

Table 96 Trigger interactions with authorization codes (Continued)

Trigger	Status	Interactions
Specified_Carrier	S	Authorization code first (voluntary): When the user goes offhook to originate a call, and dials the switch-based feature access code (FAC) that corresponds to the activation of authorization codes first feature, this trigger is encountered after the user enters the authorization code and the called number. When the authorization code feature user flashes during an active call, and then dials the switch-based feature access code (FAC) that corresponds to the activation of authorization codes First feature, after the user enters in the authorization code, this trigger is not encountered. The user can then hookflash back to the active call. Authorization code last: When the authorization code last (ACR) feature user dials a number, this trigger is not encountered until after the authorization code has been collected.
T_Busy	UU	Not applicable
T_NoA	UU	
TAT	S	Once the call progresses to a stable talking state, the user is able to flash and dial the feature access code (FAC) for the authorization code first (voluntary) feature without any triggering occurring.
TRA	UU	Not applicable
TKTERM	N/A	

1.18.1.2 Event interactions with authorization codes

Table 97 provides event interactions with authorization codes.

Table 97 Event interactions with authorization codes

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.18.1.3 Other interactions with authorization codes

Table 98 provides other interactions with authorization codes.

Table 98 Other interactions with authorization codes

Description	Status	Interactions
Collect_Information	UU	Authorization codes (First or last) cannot be activated via a Collect_Information message. The call is sent to FNAL treatment.
AIN trigger criteria checking	S	The digits of the authorization code are not sent to the SCP. AIN' trigger criteria checking is accomplished using the Called_Party DN that is dialed, and not the authorization code dialed.
Create_Call	PS	The originator can not activate authorization codes until the called party answers. When a Create_Call is requested to originate from a line that requires an authorization code, the authorization code feature at the Collect_Info PIC is bypassed and the call routes to the called party without the input of the authorization code. The authorization code voluntary feature can activate after flashing during an active call established through Create_Call functionality.

1.18.2 Authorization code immediate dialing

The authorization code immediate dialing (ACID) feature removes the seven second pause between the input of authorization codes and second dial tone. When an IBN subscriber dials a correct authorization code, including the correct security digits, the ACID feature assumes that no more authorization code digits are required. The ACID feature proceeds immediately to the next stage of call processing without waiting for an octothorpe (#) or interdigit time-out.

ACID interacts with AIN in the same way Authorization codes interacts with AIN. See Section 1.18.1 “Authorization codes” on page 141 for interactions with AIN.

1.18.3 Code restriction

The code restriction (CRL) feature denies or allows selected station lines and network access trunks the ability to complete outgoing exchange network calls based on the dialing pattern.The restricted calls are routed to the attendant, an announcement, or a tone on an individual end user basis.

1.18.3.1 Trigger interactions with CRL

Table 99 provides trigger interactions with CRL.

Table 99 Trigger interactions with CRL

Trigger	Status	Interactions
AFR	S	When the blocked DN is dialed, the call does not trigger on any triggers and the appropriate treatment is applied.
CDP	S	
International	S	
N11	S	
O_CPB	S	
O_NoA	S	
OHD	PS	When the blocked DN is dialed, the call does not trigger on any triggers and the appropriate treatment is applied. CRD occurs prior to OHD.
OHI	S	OHI takes precedence over CRL.
One_Plus_Prefix	S	When the blocked DN is dialed, the call does not trigger on any triggers and the appropriate treatment is applied.
Operator_Services	S	
PFC	S	
PRIB	UU	Not applicable
SDS	S	When the blocked DN is dialed, the call does not trigger on any triggers and the appropriate treatment is applied.
SFC	S	

Table 99 Trigger interactions with CRL (Continued)

Trigger	Status	Interactions
SIT	UU	Not applicable
Specified_Carrier	S	When the blocked DN is dialed, the call does not trigger on any triggers and the appropriate treatment is applied.
T_Busy	S	
T_NoA	S	
TAT	S	
TRA	UU	Not applicable
TKTERM	N/A	

1.18.3.2 Event interactions with CRL

Table 100 provides event interactions with CRL.

Table 100 Event interactions with CRL

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.18.3.3 Other interactions with CRL

Table 101 provides other interactions with CRL.

Table 101 Other interactions with CRL

Description	Status	Interactions
Analyze Route	PS	Any DN that is blocked for the customer group through CRL is not blocked when a call is routed to that DN by an Analyze Route or Forward Call response.
Forward Call	PS	

Table 101 Other interactions with CRL

Description	Status	Interactions
TRAVER	UU	When the blocked DN is dialed, the TRAVER tool shows that the call should trigger even though it does not.
Create_Call	S	Any DN blocked for the customer group through CRL is not blocked when a call routes to that DN by Create_Call functionality.

1.18.4 Denied origination

The following sections describe interactions with denied origination (DOR).

1.18.4.1 Trigger interactions with denied origination

Table 102 provides trigger interactions with DOR.

Table 102 Trigger interactions with DOR

Trigger	Status	Interactions
AFR	S	A line that subscribes to DOR does not encounter these triggers when trying to originate a call. Calls terminating to a line with DOR can encounter all triggers.
CDP	S	
International	S	
N11	S	
O_CPB	S	
O_NoA	S	
OHD	S	
OHI	S	A line that subscribes to DOR encounters trigger Off-Hook_Immediate. When the call triggers at Off-Hook_Immediate, all subsequent triggers and events can be encountered.

Table 102 Trigger interactions with DOR (Continued)

Trigger	Status	Interactions
One_Plus_Prefix	S	A line that subscribes to DOR does not encounter these triggers when trying to originate a call. Calls terminating to a line with DOR can encounter all triggers.
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	S	Calls terminating to a line with DOR can encounter these triggers.
T_NoA	S	
TAT	S	
TRA	S	
TKTERM	N/A	

1.18.5 Event interactions with DOR

Table 103 provides event interactions with DOR.

Table 103 Event interactions with DOR

Event	Status	Interactions
Network_Busy	S	Calls terminating to lines with DOR can arm and detect this event.
O_Answer	S	
O_CPB	S	
O_NoA	S	
T_Answer	S	
T_Busy	S	
T_NoA	S	

1.18.6 Other interactions with DOR

Table 104 provides other interactions with DOR.

Table 104 Other interactions with DOR

Description	Status	Interactions
Update Message	PS	Requests for “Change Status of MWI” on an agent will override DOR for all cases except AudioMessageWaiting Indicator Update Request. An Update Message with AMWI requested against an Agent subscribed to the DOR feature will provide the functionality of AMWI only after DOR is removed from the agent.
Create_Call	S	When the originator has DOR, the Create_Call request is rejected by sending the SCP a Failure message with failureCause=inappropriateUserInterface.

1.18.7 Restricted dial tone

The restricted dial tone (RSDT) feature allows an operating company to deny termination and limit the dialing patterns of lines that are normally put out of service on a DMS-100 switch.

1.18.7.1 Trigger interactions with RSDT

Table 105 provides trigger interactions with RSDT.

Table 105 Trigger interactions with RSDT

Trigger	Status	Interactions
AFR	S	This trigger cannot be encountered on an RSDT line (either INEFFECT or ELIGIBLE).
CDP	S	
International	S	AIN originating office-wide triggers that apply to RES and POTS agents can be encountered from an RSDT (INEFFECT or ELIGIBLE) line.
N11	S	
O_CPB	S	This trigger cannot be encountered on an RSDT line (either INEFFECT or ELIGIBLE).
O_NoA	S	
OHD	S	
OHI	S	
One_Plus_Prefix	S	AIN originating office-wide triggers that apply to RES and POTS agents can be encountered from an RSDT (INEFFECT or ELIGIBLE) line.
Operator_Services	S	

Table 105 Trigger interactions with RSDT (Continued)

Trigger	Status	Interactions
PFC	S	This trigger cannot be encountered on an RSDT line (either INEFFECT or ELIGIBLE).
PRIB	NA	RSDT is not supported on PRI agents.
SDS	S	AIN originating office-wide triggers that apply to RES and POTS agents can be encountered from an RSDT (INEFFECT or ELIGIBLE) line.
SFC	S	This trigger cannot be encountered on an RSDT line (either INEFFECT or ELIGIBLE).
SIT	NA	RSDT is not supported on trunk agents.
Specified_Carrier	S	AIN originating office-wide triggers that apply to RES and POTS agents can be encountered from an RSDT (INEFFECT or ELIGIBLE) line.
T_Busy	UU	Not applicable
T_NoA	UU	
TAT	UU	
TRA	UU	
TKTERM	N/A	

1.18.7.2 Event interactions with RSDT

Table 106 provides event interactions with RSDT.

Table 106 Event interactions with RSDT

Event	Status	Interactions
Network_Busy	S	Any NELs that are armed and detected as part of an SCP response functions correctly
O_Answer	S	
O_CPB	S	
O_NoA	S	
T_Answer	S	
T_Busy	S	
T_NoA	S	

1.18.7.3 Other interactions with RSDT

Table 107 provides other interactions with RSDT.

Table 107 Other interactions with RSDT

Description	Status	Interactions
SCP response	S	When an SCP response directs a call to an RSDT INEFFECT line, the call is blocked by RSDT. When an SCP response directs a call to an RSDT eligible line, the call terminates normally.
Create_Call	S	When the CallingPartyID parameter in the Create_Call message is the RSDT subscriber, the Create_Call request is rejected by sending the SCP a failure message with failureCause=inappropriateUserInterface. When the CalledParty activates the RSDT feature, a call created through Create_Call functionality cannot terminate on the called party.

1.18.8 Station origination restrictions

The station origination restrictions (SOR) feature determines whether the call should be restricted by SOR.

SOR restrictions fall into one of the following four categories:

- calls permitted based on NCOS
- only intragroup calls or calls on an exception list are allowed
- no calls are allowed
- only calls on the exception list are allowed

SOR is checked at the Analyzing_Information PIC (Point In Call) of the call model.

1.18.8.1 Trigger interactions with SOR

Table 108 provides trigger interactions with SOR.

Table 108 Trigger interactions with SOR

Trigger	Status	Interactions
AFR	S	Not applicable
CDP	S	
International	S	SOR takes precedence over this trigger. A call blocked by SOR will not hit this trigger.

Table 108 Trigger interactions with SOR (Continued)

Trigger	Status	Interactions
N11	S	Not applicable
O_CPB	UU	
O_NoA	UU	
OHD	S	
OHI	S	
One_Plus_Prefix	S	SOR takes precedence over these triggers. A call blocked by SOR does not hit these triggers
Operator_Services	S	
PFC	S	Not applicable
PRIB	UU	
SDS	S	
SFC	UU	
SIT	S	
Specified_Carrier	S	SOR takes precedence over this trigger. A call blocked by SOR will not hit this trigger.
T_Busy	UU	Not applicable
T_NoA	UU	
TAT	S	
TRA	UU	Not Applicable
TKTERM	N/A	

1.18.8.2 Event interactions with SOR

Table 109 provides event interactions with SOR.

Table 109 Event interactions with SOR

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.18.8.3 Other interactions with SOR

Table 110 provides other interactions with SOR.

Table 110 Other interactions with SOR

Description	Status	Interactions
ForwardCall	UU	SOR is not encountered when the call is forwarded by a forward call response from the SCP.
Analyze_route	PS	SeeTable 111 “SOR and AIN processing interactions”.
Create_Call	PS	See Table 581 “SOR and AIN processing interactions”.

1.18.8.4 Miscellaneous information for SOR

The following section describes miscellaneous interactions with SOR.

Table 111 SOR and AIN processing interactions

Level	Incoming bearer capability	Create_Call and AIN response processing
0	All calls permitted by the NCOS are allowed	Same
1	Intragroup calls and calls on an on exception list are allowed	Only calls on an exception list are allowed
2	Only intragroup calls are allowed	No calls are allowed
3	Only calls on an exception list are allowed	Same
4	No calls are allowed	Same

1.18.9 Station specific authorization codes

Station specific authorization codes (SSAC) provides the capability of limiting authorization code use to a specific station. This restriction increases security since the authorization code is linked to the individual's station, and cannot be used from just any location.

SSAC has the same interactions as authorization codes. See Section 1.18.1 "Authorization codes"for information addressing the interaction with AIN.

1.19 Ring again features

This section addresses the following ring again features:

- call back queuing (CBQ)
- network ring again (NRAG)
- nodal ring again (RAG)

1.19.1 Call back queuing

Call back queuing (also known as on-hook queuing) provides a ring back to the on-hook calling line, when a facility that the call is queued against becomes available. CBQ can be activated by the caller after receiving no circuit treatment, expensive route warning tone (ERWT) or during the off-hook queue tone or announcement.

Note: This section applies to trunk facilities only, not VFGs.

1.19.1.1 Trigger interactions with CBQ

Table 112 provides trigger interactions with CBQ.

Table 112 Trigger interactions with CBQ

Trigger	Status	Interactions
AFR	PS	After the call hits these triggers, the call cannot encounter CBQ. See Table 114 "Other interactions with CBQ" on page 159.
CDP	PS	
International	PS	
N11	PS	
O_CPB	PS	When CBQ is invoked, the call cannot hit these triggers.
O_NoA	PS	

Table 112 Trigger interactions with CBQ (Continued)

Trigger	Status	Interactions
OHD	PS	After the call hits these triggers, the call cannot encounter CBQ. See Table 114 “Other interactions with CBQ” on page 159.
OHI	PS	
One_Plus_Prefix	PS	
Operator_Services	PS	
PFC	PS	
PRIB	PS	
SDS	PS	
SFC	PS	
SIT	PS	
Specified_Carrier	PS	
T_Busy	PS	During CBQ ringback to the originator, these triggers are not hit. Currently trunks cannot subscribe to these triggers, therefore, they cannot be hit on the terminating trunk.
T_NoA	PS	
TAT	PS	
TRA	PS	During CBQ ringback to the originator, trigger TRA is not hit. Trunks cannot subscribe to trigger TRA. Trigger TRA cannot be hit on the terminating trunk.
TKTERM	N/A	

1.19.1.2 Event interactions with CBQ

Table 113 provides event interactions with CBQ

Table 113 Event interactions with CBQ

Event	Status	Interactions
Network_Busy	PS	See restrictions for triggers and responses.
O_Answer	PS	
O_CPB	PS	
O_NoA	PS	
T_Answer	PS	
T_Busy	PS	
T_NoA	PS	

1.19.1.3 Other interactions with CBQ

Table 114 provides other interactions with CBQ.

Table 114 Other interactions with CBQ

Description	Status	Interactions
Analyze_Route	U	When the call encounters a busy facility during the processing of this response CBQ cannot be invoked.
Collect_Information	U	
Continue	U	
Forward_Call	U	
Create_Call	U	When the call encounters a busy facility during Create_Call processing, CBQ is not invoked.
parameter CarrierUsage	NA	When a call encounters a busy condition after receiving an AR, FC, or CC message, CBQ cannot be invoked.

1.19.2 Network ring again

Network ring again (NRAG) is applicable when the ring again feature is networked across different switching nodes. From a user point of view, NRAG and RAG operate the same way.

1.19.2.1 Trigger interactions with NRAG

Table 115 provides trigger interactions with NRAG.

Table 115 Trigger interactions with NRAG

Trigger	Status	Interactions
AFR	UU	Not applicable
CDP	UU	
International	UU	
N11	UU	
O_CPB	UU	
O_NoA	UU	
OHD	UU	
OHI	UU	
One_Plus_Prefix	UU	
Operator_Services	UU	
PFC	UU	
PRIB	UU	
SDS	UU	
SFC	UU	
SIT	UU	
Specified_Carrier	UU	
T_Busy	UU	
T_NoA	UU	
TAT	UU	
TRA	UU	
TKTERM	N/A	

1.19.2.2 Event interactions with NRAG

Table 116 provides event interactions with NRAG.

Table 116 Event interactions with NRAG

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.19.2.3 Other interactions with NRAG

Table 117 provides other interactions with NRAG.

Table 117 Other interactions with NRAG

Description	Status	Interactions
Analyze_Route	UU	When the user attempts to invoke network ring again (NRAG) on a call that has received an Analyze_Route or a Forward_Call message in the same office as the originator, the attempt to invoke NRAG is disallowed. When the call is sent over a PRI looparound trunk before receiving the Analyze_Route or Forward_Call message, the attempt to invoke NRAG is also disallowed.
Forward_Call	UU	
Create_Call	UU	When a Create_Call message establishes a call and the originator activates the NRAG feature, the NRAG feature applies to the last number dialed by the originator.
parameter CarrierUsage	NA	This parameter is not supported for AR, FC and CC messages.

1.19.3 Nodal ring again

The following section describes interactions with nodal ring again (RAG).

1.19.3.1 Trigger interactions with RAG

Table 118 provides trigger interactions with RAG.

Table 118 Trigger interactions with RAG

Trigger	Status	Interactions
AFR	UU	Not applicable
CDP	UU	
International	UU	
N11	UU	
O_CPB	UU	
O_NoA	UU	
OHD	UU	
OHI	UU	
One_Plus_Prefix	UU	
Operator_Services	UU	
PFC	UU	
PRIB	UU	
SDS	UU	
SFC	UU	
SIT	UU	
Specified_Carrier	UU	
T_Busy	UU	
T_NoA	UU	
TAT	UU	
TRA	UU	
TKTERM	N/A	

1.19.3.2 Event interactions with RAG

Table 119 provides event interactions with RAG.

Table 119 Event interactions with RAG

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.19.3.3 Other interactions with RAG

Table 120 provides other interactions with RAG.

Table 120 Other interactions with RAG

Description	Status	Interactions
Analyze Route	UU	When a user attempts to invoke RAG on a call that receives an Analyze_Route or Forward_Call message in response to a query, the attempt to invoke RAG is disallowed.
Forward_Call	UU	
Create_Call	S	When the Create_Call message establishes a call and the originator activates the RAG feature, the RAG feature applies to the last number dialed by the originator.
parameter CarrierUsage	NA	When RAG is attempted on a call that has encountered AR, FC, or CC, RAG activation is not allowed.

1.20 Routing features

This section addresses the following routing features:

- dynamically controlled routing (DCR)
- expensive route warning tone (ERWT)
- international direct distance dialing (IDDD) through automatic route selection (ARS)
- time of day routing (TOD)

1.20.1 Dynamically controlled routing

The dynamically controlled routing (DCR) feature actively routes overflow traffic, separated by one or two links, from an originating switch. Each switch of the DCR network provides traffic congestion data to a centralized processor [network processor (NP)] that describes the resource usage of the switch. The NP uses this data to calculate alternate routing recommendations for calls that overflow their direct route. The NP provides the switches with these recommendations.

1.20.1.1 Trigger interactions with DCR

Table 121 provides trigger interactions with DCR.

Table 121 Trigger interactions with DCR

Trigger	Status	Interactions
AFR	PS	A call can hit the AFR trigger when all the DCR routes are busy (Direct, recommended tandem routes when applicable, and exception routes). Operating company personnel can specify AFR at any location in the route list. When the SSP encounters AFR in the route list, AFR trigger processing begins. The SSP ignores route list entries that follow AFR. When SLER is OFF, exception routes are not used for routing. The AFR trigger, when datafilled in the exception route list, is not encountered.

Table 121 Trigger interactions with DCR (Continued)

Trigger	Status	Interactions
CDP	S	A call can hit these triggers before, during, and after DCR.
International	S	
N11	S	
O_CPB	S	
O_NoA	S	
OHD	S	
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	S	
T_NoA	S	
TAT	S	
TRA	S	Trigger TRA can be encountered after DCR.
TKTERM	N/A	

1.20.1.2 Event interactions with DCR

Table 122 provides event interactions with DCR.

Table 122 Event interactions with DCR

Event	Status	Interactions
Network_Busy	S	A call can hit these events before, during, and after DCR.
O_Answer	S	
O_CPB	S	
O_NoA	S	
T_Answer	S	
T_Busy	S	
T_NoA	S	

1.20.1.3 Other interactions with DCR

Table 123 provides other interactions with DCR.

Table 123 Other interactions with DCR

Description	Status	Interactions
Netbusy EDP-R	S	Netbusy EDP-R is encountered when DCR blocks the call, and when the NETBUSY NEL is armed.
Analyze Route	S	When the SSP receives these messages, the SSP removes the DCR handicap.
Forward_Call	S	
Collect_Info	S	
Create_Call	S	A call can encounter DCR when routing to the called party.
parameter CarrierUsage	S	DCR deals with routing. Parameter CarrierUsage impacts translations. There is no interaction.

1.20.2 Expensive route warning tone

The expensive route warning tone (ERWT) feature is an optional feature that provides a warning tone to indicate the selection of an expensive route.

ERWT is given when all of the following conditions are met:

- a route marked as expensive in a route list is chosen by automatic route selection (ARS)
- the call has never been queued
- the end user's NCOS and customer group data are set to receive ERWT

1.20.2.1 Trigger interactions with ERWT

Table 124 provides trigger interactions with ERWT.

Table 124 Trigger interactions with ERWT

Trigger	Status	Interactions
AFR	S	AFR can be part of the ERWT route list, so when all the previous routes are busy, AFR is hit and ERWT is heard.
CDP	PS	ERWT is not heard after the call has triggered.
International	PS	
N11	PS	
O_CPB	UU	Not applicable
O_NoA	UU	
OHD	PS	ERWT is not heard after the call has triggered.
OHI	PS	
One_Plus_Prefix	PS	
Operator_Services	PS	
PFC	PS	
PRIB	PS	
SDS	PS	
SFC	PS	
SIT	PS	
Specified_Carrier	PS	
T_Busy	UU	Not applicable
T_NoA	UU	
TAT	PS	ERWT is not heard after the call has triggered.

Table 124 Trigger interactions with ERWT (Continued)

Trigger	Status	Interactions
TRA	UU	Not applicable
TKTERM	N/A	

1.20.2.2 Event interactions with ERWT

Table 125 provides event interactions with ERWT.

Table 125 Event interactions with ERWT

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.20.2.3 Other interactions with ERWT

Table 126 provides other interactions with ERWT.

Table 126 Other interactions with ERWT

Description	Status	Interactions
Create_Call	U	When routing to the called party, an expensive route warning tone is not heard.
parameter CarrierUsage	NA	ERWT is not supported for calls that encounter AR, FC or CC.

1.20.3 International direct distance dialing through automatic route selection

This feature provides the capability for MDC customers to access international direct distance dialing (IDDD) through automatic route selection (ARS) in the customer's private network. This removes the need to proceed directly to the public network to process IDDD calls. It also provides the customer with access to the enhanced routing capabilities that facilitate greater call completion rates. Finally, it provides the customer with the ability to regulate access to IDDD calls at any point within the customer's private network.

1.20.3.1 Trigger interactions with IDDD through ARS

Table 127 provides trigger interactions with IDDD through ARS.

Table 127 Trigger interactions with IDDD through ARS

Trigger	Status	Interactions
AFR	S	An IDDD through ARS call can encounter AFR triggers.
CDP	S	It is possible to trigger on the CDP access code with a continue response. In this case, the call continues and uses the customer group's IDDD (IDDD through ARS) through translations. An IDDD through ARS call can encounter CDP (custom access) trigger.
International	UU	Not applicable
N11		
O_CPB		
O_NoA		
OHD		
OHI		
One_Plus_Prefix		
Operator_Services		
PFC		
PRIB		
SDS		
SFC		
SIT		
Specified_Carrier		
T_Busy		
T_NoA		
TAT	S	Since IDDD through ARS goes out through a trunk, as long as the trunk can hit Termination_Attempt trigger, the call can trigger on Termination_Attempt.

Table 127 Trigger interactions with IDDD through ARS (Continued)

Trigger	Status	Interactions
TRA	UU	Not applicable
TKTERM	N/A	

1.20.3.2 Event interactions with IDDD through ARS

Table 128 provides event interactions with IDDD through ARS.

Table 128 Event interactions with IDDD through ARS

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.20.3.3 Other interactions with IDDD through ARS

Table 129 provides other interactions with IDDD through ARS.

Table 129 Other interactions with IDDD through ARS

Description	Status	Interactions
TRAVER	PS	The TRAVER for the CDP trigger does not show triggering in the trace section.
Responses	PS	It is also possible to trigger with a response to outpulse the number through the trunk that would normally be used for IDDD through ARS. This would not be truly IDDD through ARS, but the result is the same. With a primary trunk group you do not encounter IDDD.
parameter CarrierUsage	PS	IDDD does not interact with CarrierUsage because private calls are not Equal Access calls. Carrier Usage only interacts with Equal Access.

1.20.4 Time of day routing

The time of day routing (TOD) feature allows for cost-effective use of facilities by allowing or denying route choices based on the time of day.

1.20.4.1 Trigger interactions with TOD

Table 130 provides trigger interactions with TOD.

Table 130 Trigger interactions with TOD

Trigger	Status	Interactions
AFR	PS	Trigger AFR can be specified in a CND TOD route list. Calls that hit the AFR trigger route successfully with the exception of the AFR trigger routing to a CND route, that results in AINF treatment.
CDP	S	A user dialing digits that eventually go through TOD routing can encounter the applicable originating triggers.
International	S	
N11	S	
O_CPB	UU	Not applicable
O_NoA	UU	
OHD	S	A user dialing digits that eventually go through TOD routing can encounter the applicable originating triggers.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	UU	Not applicable
T_NoA	UU	
TAT	S	A call that has already gone through TOD routing can encounter the Termination_Attempt trigger.

Table 130 Trigger interactions with TOD (Continued)

Trigger	Status	Interactions
TRA	UU	Not applicable
TKTERM	N/A	

1.20.4.2 Event interactions with TOD

Table 131 provides event interactions with TOD.

Table 131 Event interactions with TOD

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

1.20.4.3 Other interactions with TOD

Table 132 provides other interactions with TOD.

Table 132 Other interactions with TOD

Description	Status	Interactions
Analyze Route	S	The Analyze Route message is processed using public translations rather than the customer groups private translations. This means that the customer groups TOD routing is not in effect for processing the Analyze Route message. However routing can occur using TOD in the public environment.
Response processing	PS	When a call triggers, the response is processed using public translations rather than the customer groups private translations. This means that once the call triggers, the customer groups TOD routing is no longer in effect.

Table 132 Other interactions with TOD (Continued)

Description	Status	Interactions
Create_Call	S	The Create_Call message is processed using public translations rather than the customer groups private translations. Customer groups TOD routing is not in effect for processing the Analyze_Route message. Routing can occur using TOD in the public environment.
parameter CarrierUsage	S	There is no interaction with TOD because TOD is a routing related feature and parameter CarrierUsage only selects a carrier.

2 AIN/DMS-100 interactions (S to Z)

WARNING
Limited information source
The status of each feature (documented in the interactions chapters) is provided as an indicator. Please read all information associated with each feature.

AIN interacts with many DMS-100 switch features. The purpose of this chapter is to document interactions between various AIN functionalities (for example, intra-AIN interactions). The feature interactions chapters are arranged alphabetically into five chapters. This chapter describes the interactions for features that begin with the letters S through Z.

> ***Note:*** See "AIN interactions introduction" on page 717 to learn how to use this information.

2.1 Secondary language

Parameter OFFICE_LANGUAGE (in table OFCENG) allows the office to datafill the primary and the secondary languages.

2.1.1 Trigger interactions with SL

Table 133 provides trigger interactions with SL.

Table 133 Trigger interactions with SL

Trigger	Status	Interactions
AFR	S	SL and these triggers are independent of each other.
CDP	S	
International	S	
N11	S	
O_CPB	S	
O_NoA	S	
OHD	S	
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	S	
T_NoA	S	
TAT	S	
TRA	S	
TKTERM	N/A	

2.1.2 Event interactions with SL

Table 134 provides event interactions with SL.

Table 134 Event interactions with SL

Event	Status	Interactions
Network_Busy	S	SL and this event are independent of each other.
O_Answer	S	
O_CPB	S	
O_CPB	S	
O_NoA	S	
T_Answer	S	
T_Busy	S	
T_NoA	S	

2.1.3 Other interactions with SL

Table 135 provides other interactions with SL.

Table 135 Other interactions with SL

Description	Status	Interactions
AIN announcements	PS	When OFFICE_LANGUAGE in table OFCENG is not NIL for the SL, and when an agent or a customer group has the SL option assigned to it, then AIN uses the language datafilled to play an announcement. No more than 24 digits can be pronounced for an AIN announcement. Digits beyond the 24th digit up to and including the 32nd digit are ignored. Any digits beyond the 32nd digit causes an application error of erroneous data value.

2.2 Series completion

Series completion (SCMP) is a line option feature that redirects calls from a busy DN to another specified DN that resides on the same switch. The feature allows a hunting scheme defined by a user to be implemented for any given group of lines.

2.2.1 Trigger interactions with SCMP

Table 136 provides trigger interactions with SCMP.

Table 136 Trigger interactions with SCMP

Trigger	Status	Interactions
AFR	S	Calls that encounter these triggers can terminate to an SCMP group. These triggers are not encountered while hunting.
CDP	S	
International	S	
N11	S	
O_CPB	UU	Not applicable
O_NoA	UU	
OHD	S	Calls that encounter these triggers can terminate to an SCMP group. These triggers are not encountered while hunting.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	S	When trigger T_Busy is assigned to a member of series completion group, that trigger is encountered only when this member of the group is last in the hunting chain and it is busy.
T_NoA	S	When the call is directed to a member of the series completion group that is idle, the T_No_Answer query message is sent to the SCP once the T-TNoAnswer timer expires.
TAT	S	Calls that encounter this trigger can terminate to an SCMP group.

Table 136 Trigger interactions with SCMP

Trigger	Status	Interactions
TRA	S	When the Term_Resource_Available trigger is assigned to a member of a series completion group, this trigger is encountered when this member of the group is selected for the call.
TKTERM	N/A	

2.2.2 Event interactions with SCMP

Table 137 provides event interactions with SCMP.

Table 137 Event interactions with SCMP

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	S	The T_Busy event is encountered when all members of the SCMP group are busy.
T_NoA	S	When the T_No_Answer EDP is armed, the event shall be processed when one member of the group is presented a call and fails to answer it in the specified time following commencement of alerting.

2.2.3 Other interactions with SCMP

Table 138 provides other interactions with SCMP.

Table 138 Other interactions with SCMP

Description	Status	Interactions
Offer_Call	S	T_Busy trigger for an SCMP group is encountered when all members of SCMP are busy.When SSP receives an Offer_Call response, the call is offered to the last member of the SCMP (since CWT only applies to the last member).Note that ACOU and SCMP are incompatible.
Create_Call	S	When the CallingPartyID included in the Create_Call message maps to an SCMP group, the Create_Call request processes. When alerting the originator, terminating features do not activate. A call created through Create_Call functionality can terminate to an SCMP group.

2.3 Simplified message desk interface

An SMDI provides a central answering service (message desk) by integrating the Call Forwarding (CFW), Uniform Call Distribution (UCD), and Message Waiting (MWT) features. An SMDI is made up of a group of UCD agents who receive information on incoming calls on a dedicated data link interface. The incoming information includes the calling party number, the forwarding station number, and the type of call forwarding involved.

SMDI allows the user to forward incoming calls to a message desk, retrieve message from a message desk, and optionally block restricted directory numbers (DN) from being presented to a SMDI SMDI end users forward their phones to the message desk where callers can leave messages with an operator (text messaging system [TMS]) or on an answering machine (voice messaging system [VMS]).

To retrieve messages from the TMS, SMDI end users log on to the SMDI and read the messages posted by the attendant.

To retrieve messages from the VMS, end users dial the SMDI directly and enter a password.

2.3.1 Trigger interactions with SMDI

Table 139 provides trigger interactions with SMDI.

Table 139 Trigger interactions with SMDI

Trigger	Status	Interactions
AFR	S	Calls that hit these triggers can encounter SMDI.
CDP	S	
International	S	
N11	S	
O_CPB	UU	Not applicable
O_NoA	UU	
OHD	S	Calls that hit these triggers can encounter SMDI.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	UU	Not applicable
T_NoA	UU	
TAT	S	SMDI is encountered in the TCM, after the Termination_Attempt trigger takes place.
TRA	UU	Not applicable
TKTERM	N/A	

2.3.2 Event interactions with SMDI

Table 140 provides event interactions with SMDI.

Table 140 Event interactions with SMDI

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

2.3.3 Other interactions with SMDI

Table 141 provides other interactions with SMDI.

Table 141 Other interactions with SMDI

Description	Status	Interactions
AIN redirections	PS	For SMDI, the interactions between AIN redirections and switch-based redirections (other than call forwarding) are not supported. When the call involves a number of AIN redirections and switch-based redirections other than call forwarding (for example, LOD, KSH, SCMP) the order of redirections with respect to AIN is not tracked. Thus, the forwarding DN and the type of call forwarding sent to the SMDI link cannot be correct. See Section 21.4.13 “Redirections” on page 736 for more information on AIN redirections.
Analyze_Route	S	The SCP database can direct calls to lines served by SMDI.
Forward_Call	S	
CallingPartyID	PS	When a CallingPartyID has been received from an SCP database, and it is 10 digits in length, then it is used as the calling number for the SMDI feature. When the CallingPartyID is not 10 digits in length, the calling number is treated as being unavailable. The presentation restriction indicator in the CallingPartyID parameter is used by the SMDI feature to determine whether to display the calling party number regardless of the present of DNSUPPR option which is datafilled in table SLLNKDEV.

Table 141 Other interactions with SMDI (Continued)

Description	Status	Interactions
RedirectingPartyID	S	Depending on the datafill in table SLLNKDEV, either the first or last RedirectingPartyID is sent to the SMDI link. The following applies for calls that have been redirected only by AIN. When option LASTFWDN is specified in table SLLNKDEV and AIN comes last, and when a RedirectingPartyID has been received from an SCP database, the ID is used as the forwarding station number in the SMDI outgoing information (as long as it is 10 digits in length). The forwarding station number is treated as being unavailable when the RedirectingPartyID is not 10 digits in length. The presentation restriction indicator in the RedirectingPartyID determines whether or not the forwarding DN is displayed. When option LASTFWDN is not specified in table SLLNKDEV and AIN comes first, and when a RedirectingPartyID is received from an SCP database, the ID is used as the forwarding station number in the SMDI outgoing information (as long as it is 10 digits in length). The forwarding station number is treated as being unavailable when the RedirectingPartyID is not 10 digits in length. The presentation restriction indicator in the RedirectingPartyID determines whether or not the forwarding DN is displayed. When the forwarding station number is overridden by the AIN RedirectingPartyID, the type of call forwarding in the SMDI outgoing information is call forward all.
Create_Call	S	The called party in the Create_Call message can be a line served by SMDI.

2.4 Single line variety package

Single line variety package (SLVP) is a set of services specific for RES lines. A line with the SLVP option has SLVP intercom, SLVP transfer, and SLVP hold services.

2.4.1 Trigger interactions with SLVP

Table 142 provides trigger interactions with SLVP.

Table 142 Trigger interactions with SLVP

Trigger	Status	Interactions
AFR	S	For all three SLVP services (intercom, transfer, and hold), these triggers cannot be encountered. Lines that subscribe to SLVP can still hit these triggers on non-SLVP calls.
CDP	S	
International	S	
N11	S	
O_CPB	S	
O_NoA	S	
OHD	S	
OHI	S	For all three SLVP services (intercom, transfer, and hold), the only trigger that can be encountered is the Off-Hook_Immediate trigger, and when encountered, the SLVP feature is no longer available on the call. Lines that subscribe to SLVP can still hit OHI on non-SLVP calls.
One_Plus_Prefix	S	For all three SLVP services (intercom, transfer, and hold), these triggers cannot be encountered. Lines that subscribe to SLVP can still hit these triggers on non-SLVP calls.
Operator_Services	S	
PFC	S	
PRIB	NA	SLVP is not supported on PRI agents.
SDS	S	For all three SLVP services (intercom, transfer, and hold), these triggers cannot be encountered. Lines that subscribe to SLVP can still hit these triggers on non-SLVP calls.
SFC	S	
SIT	NA	SLVP is not supported on trunk agents.
Specified_Carrier	S	For all three SLVP services (intercom, transfer, and hold), these triggers cannot be encountered. Lines that subscribe to SLVP can still hit these triggers on non-SLVP calls.
T_Busy	S	
T_NoA	S	
TAT	S	

Table 142 Trigger interactions with SLVP (Continued)

Trigger	Status	Interactions
TRA	S	Lines that subscribe to SLVP can hit trigger TRA on non-SLVP calls.
TKTERM	N/A	

2.4.2 Event interactions with SLVP

Table 143 provides event interactions with SLVP.

Table 143 Event interactions with SLVP

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

2.5 Softkey display features

The following section describes interactions with softkey display features. The softkey display (SKDISP) feature is available only on ISDN terminals.

2.5.1 Softkey transfer

The following section describes interactions with softkey transfer.

2.5.1.1 Trigger interactions with softkey transfer

Table 144 provides trigger interactions with softkey transfer.

Table 144 Trigger interactions with softkey transfer

Trigger	Status	Interactions
AFR	PS	Only office-based and group-based AFR triggers can be hit during a softkey transfer.
CDP	S	This trigger can be hit during a softkey transfer.
International	S	This trigger can be hit during a softkey transfer.

Table 144 Trigger interactions with softkey transfer (Continued)

Trigger	Status	Interactions
N11	S	This trigger can be hit during a softkey transfer.
O_CPB	UU	Not applicable
O_NoA	UU	
OHD	S	SERVORD blocks subscription of the AIN line options to MFT sets with the SKDISP option. When AIN is datafilled without using SERVORD, these triggers are not hit during a softkey transfer.
OHI	S	
One_Plus_Prefix	S	This trigger can be hit during a softkey transfer.
Operator_Services	S	
PFC	PS	This trigger cannot be hit during a softkey transfer.
PRIB	NA	Softkey transfer is not supported on PRI agents.
SDS	S	This trigger can be hit during a softkey transfer.
SFC	PS	This trigger cannot be hit during a softkey transfer.
SIT	NA	Softkey transfer is not supported on trunk agents.
Specified_Carrier	S	This trigger can be hit during a softkey transfer.
T_Busy	UU	Not applicable
T_NoA	UU	
TAT	S	This trigger can be hit during a softkey transfer.
TRA	UU	Not applicable
TKTERM	N/A	

2.5.1.2 Event interactions with softkey transfer

Table 145 provides event interactions with softkey transfer.

Table 145 Event interactions with softkey transfer

Event	Status	Interactions
O_Disconnect	PS	The interaction is same as with CXR.
O_Disconnect_Called	PS	
Timeout	PS	

Table 145 Event interactions with softkey transfer

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

2.6 Speech activated intelligent dialing features

This section addresses the following speech activated intelligent dialing features:

- speech activated intelligent dialing (SAID)
- SAID stringing of digits (SOD)

2.6.1 Speech activated intelligent dialing

SAID features provide subscribers access to services provided directly by intelligent peripherals (IPs) such as voice recognition. SAID uses the network facility access (NFA) feature to access IPs. NFA provides a direct connection from a subscriber to an IP through NFA trunks. The connection can either be through implicit (auto) access or explicit (dialed) access.

One functionality provided by the IP is to originate calls (that is, dial digits) for the subscriber.

With implicit access to the IP, when a SAID subscriber dials some digits, SAID determines that the user is dialing and removes itself from the call. The call returns to call processing and translation occurs on the digits enter.

2.6.1.1 Trigger interactions with SAID

Table 146 provides trigger interactions with SAID.

Table 146 Trigger interactions with SAID

Trigger	Status	Interactions
AFR	S	The SAID features enter the AIN OCM at the collecting information PIC proceed through the originating and terminating call models as a normal call. Therefore, this trigger can be hit.
CDP	S	
International	S	
N11	S	
O_CPB	UU	Not applicable
O_NoA	UU	
OHD	S	The SAID features enter the AIN OCM at the collecting information PIC proceed through the originating and terminating call models as a normal call. Therefore, this trigger can be hit.
OHI	UU	Not applicable
One_Plus_Prefix	S	The SAID features enter the AIN OCM at the collecting information PIC proceed through the originating and terminating call models as a normal call. Therefore, this trigger can be hit.
Operator_Services	S	Not applicable
PFC	S	
PRIB	UU	Not applicable
SDS	S	The SAID features enter the AIN OCM at the collecting information PIC proceed through the originating and terminating call models as a normal call. Therefore, this trigger can be hit.
SFC	S	When the entered digits correspond to an SFC feature access code, SFC trigger is encountered.
SIT	UU	Not applicable
Specified_Carrier	S	The SAID features enter the AIN OCM at the collecting information PIC proceed through the originating and terminating call models as a normal call. Therefore, this trigger can be hit.

Table 146 Trigger interactions with SAID (Continued)

Trigger	Status	Interactions
T_Busy	UU	Not applicable
T_NoA	UU	
TAT	N/A	The SAID features enter the AIN OCM at the collecting information PIC proceed through the originating and terminating call models as a normal call. Therefore, this trigger can be hit.
TRA	UU	Not applicable. Calls originated using SAID can encounter trigger TRA.
TKTERM	UU	

2.6.1.2 Event interactions with SAID

Table 147 provides event interactions with SAID.

Table 147 Event interactions with SAID

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

2.6.1.3 Other interactions with SAID

Table 148 provides other interactions with SAID.

Table 148 Other interactions with SAID

Description	Status	Interactions
Create_Call	S	Create_Call takes precedence over SAID. The originator is not connected to the IP or prompted for dial tone before it connects to the called party of the Create_Call message.

2.6.2 SAID stringing-of-digits (SOD)

SOD can return either one or two digit-string buffers. For the one digit-string buffer, the string could be a feature access code or a translatable number. For the two digit-string buffers, the first string can be a feature access code and the second string a translatable number.

2.6.2.1 Trigger interactions with SOD

Table 149 provides trigger interactions with SOD.

Table 149 Trigger interactions with SOD

Trigger	Status	Interactions
AFR	UU	Not applicable
CDP	UU	
International	UU	
N11	UU	
O_CPB	UU	
O_NoA	UU	
OHD	UU	
OHI	UU	
One_Plus_Prefix	UU	
Operator_Services	UU	
PFC	UU	
PRIB	UU	
SDS	UU	

Table 149 Trigger interactions with SOD (Continued)

Trigger	Status	Interactions
SFC	PS	SOD does not support the second digit-string buffer for SFC feature access codes. When an SFC feature access code is returned by the IP, any second digit string is ignored and AIN prompts the subscriber for any additional digits required. For SFC triggers with digit collection methods (that is, QUERYAFT field) of NORM, FIX, or VAR, the subscriber is provided with a second dial tone to enter additional digits. An SCP query is launched upon validation of these digits. For SFC triggers that require no additional digits (that is, QUERYAFT = IMMED), the SCP is queried immediately. Therefore, the SFC trigger can be encountered on SAID originated calls.
SIT	UU	Not applicable
Specified_Carrier	UU	
T_Busy	UU	
T_NoA	UU	
TAT	UU	
TRA	UU	
TKTERM	UU	

2.6.2.2 Event interactions with SOD

Table 150 provides event interactions with SOD.

Table 150 Event interactions with SOD

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

2.7 Speed calling features

Speed call allows a user to terminate on a predesignated line using abbreviated dialing.

There are several different types of speed calling. These are described in the following paragraphs, and include:

- POTS speed calling (SC1 and SC2)
- MDC speed calling group user (SCU)

  Note: Speed call group user (SCU) option allows a line equipment number (LEN) to be a member of a speed calling group. This means that the user can activate any of the speed call numbers programmed by the controller, but does not have the ability to change the speed calling list.

- network speed calling (NSC)

  Note: Assigns speed call numbers on a customer-group basis. Each customer group can define 1000 NSC numbers that are accessible to its members. This feature allows for speed call numbers to be defined on a customer-group basis through translations. This is accomplished through datafill in tables REPLNAME, REPLCODE, and IBNXLA.

- speed call pause insertion (SCPAUSE) end-to-end signaling with speed call

  Note: Speed call pause insertion/end-to-end signaling using speed call is a type of MDC speed calling that allows a user to include a telephone set pad asterisk (*) when programming speed calling. When the asterisk (*) is included at the end of the speed call cell, the call pauses to allow the user to enter additional digits.

- MDC speed calling (SCS and SCL)

  Note 1: For MDC speed calling, the user can program speed call numbers by dialing the SCPS or SCPL access codes datafilled in table IBNXLA.

  Note 2: SCS can be activated from a P-Phone, IBN line, and POTS line. Speed calling short list allows a user to store up to ten frequently dialed DN in a speed calling short list so that they are outpulsed automatically by dialing a single-digit code.

- variable speed calling access code

  Note: When the variable speed calling access code (AMBISC) option is assigned against a customer group in table CUSTSTN, users in that customer group programming speed calling are restricted in the digits that they can use.

- speed call validation (SCVAL)

  Note: When the SCVAL option is assigned to a customer group, any attempt to activate speed call programming from a line in that customer group only succeeds when the dialed digits correspond to a valid translation number.

There are two separate aspects of speed calling:

- speed call programming
- speed call invocation

2.7.1 Speed call programming

The following section describes interactions with speed call programming.

2.7.1.1 Trigger interactions with speed call programming

Table 151 provides trigger interactions with speed call programming.

Table 151 Trigger interactions with speed call programming

Trigger	Status	Interactions
AFR	S	For POTS speed calling, in both SC1 and SC2 programming, no validation is performed on the destination digits, so there is no interaction with AIN. No triggers are hit during speed call validation (SCVAL).
CDP	PS	For POTS speed calling, in both SC1 and SC2 programming, no validation is performed on the destination digits, so there is no interaction with AIN. No triggers are hit during SCVAL. When translations are activated during SCVAL, AIN feature access codes in table IBNXLA or XLANAME can be encountered. When this happens, the user receives a negative acknowledgment (NACK) treatment. Speed call validation rejects calls to SCP feature access codes, as it does any feature code. CDP access codes can pass speed call validation when the access codes are datafilled under the customer group translator of the preliminary translator for the customer group.
International	UU	Not applicable

Table 151 Trigger interactions with speed call programming (Continued)

Trigger	Status	Interactions
N11	S	For POTS speed calling, in both SC1 and SC2 programming, no validation is performed on the destination digits, so there is no interaction with AIN. No triggers are hit during SCVAL.
O_CPB	S	
O_NoA	S	
OHD	S	
OHI	S	
One_Plus_Prefix	UU	Not applicable
Operator_Services	UU	
PFC	PS	For POTS speed calling, in both SC1 and SC2 programming, no validation is performed on the destination digits, so there is no interaction with AIN. No triggers are hit during SCVAL. When translations are activated during SCVAL, AIN feature access codes in table IBNXLA or XLANAME can be encountered. When this happens, the user receives a negative acknowledgment (NACK) treatment. Speed call validation rejects calls to SCP feature access codes, as it does any feature code. PFC access codes can pass speed call validation when the access codes are datafilled under the customer group translator of the preliminary translator for the customer group.
PRIB	NA	Speed calling is not supported on PRI agents.
SDS	S	For POTS speed calling, in both SC1 and SC2 programming, no validation is performed on the destination digits, so there is no interaction with AIN. No triggers are hit during SCVAL.

Table 151 Trigger interactions with speed call programming (Continued)

Trigger	Status	Interactions
SFC	PS	A speed call cell can be programmed with an SFC VSC or feature access code. For RES agents, speed call validation prevents AIN feature access codes from being programmed to a speed call cell. Therefore the SFC trigger cannot be encountered upon speed call invocation. When translations are activated during SCVAL, AIN feature access codes in table IBNXLA or XLANAME can be encountered. When this occurs, the user receives a negative acknowledgment (NACK) treatment. Speed call validation rejects calls to SCP feature access codes, as it does any feature code. SFC access codes can pass speed call validation when the access codes are datafilled under the customer group translator of the preliminary translator for the customer group.
SIT	NA	Speed calling is not supported on trunk agents.
Specified_Carrier	UU	Not applicable
T_Busy	S	For POTS speed calling, in both SC1 and SC2 programming, no validation is performed on the destination digits, therefore, there is no interaction with AIN. No triggers are hit during SCVAL.
T_NoA	S	
TAT	S	
TKTERM	N/A	

2.7.1.2 Event interactions with speed call programming

Table 152 provides event interactions with speed call programming.

Table 152 Event interactions with speed call programming

Event	Status	Interactions
Network_Busy	S	No triggers are hit, therefore, no events can be armed or detected.
O_Answer	S	
O_CPB	S	
O_CPB	S	
O_NoA	S	
T_Answer	S	
T_Busy	S	
T_NoA	S	

2.7.1.3 Other interactions with speed call programming

Table 153 provides other interactions with speed call programming.

Table 153 Other interactions with speed call programming

Description	Status	Interactions
Collect_Information	U	When parameter CollectedDigits contains the speed call programming feature access code, the SSP sends the call to FNAL treatment.

2.7.2 Speed call invocation

The following sections describe interactions with speed call invocation.

2.7.2.1 Trigger interactions with speed call invocation

Table 154 provides trigger interactions with speed call invocation.

Table 154 Trigger interactions with speed call invocation

Trigger	Status	Interactions
AFR	S	Calls dialed using the speed calling feature can hit this trigger.
CDP	PS	Calls dialed using the speed calling feature can hit this trigger. Speed dialing codes are translated during the Collecting_Information PIC. Upon invocation, speed call cells programmed with feature access codes are translated, but the feature is not activated. This interaction is a result of limitations of speed call.
International	UU	Not applicable
N11	S	Calls dialed using the speed calling feature can hit this trigger.
O_CPB	S	
O_NoA	S	
OHD	S	
OHI	S	OHI has precedence over speed call invocation.
One_Plus_Prefix	UU	Not applicable
Operator_Services	UU	
PFC	PS	Calls dialed using the speed calling feature can hit this trigger. Speed dialing codes are translated during the Collecting Information PIC. Upon invocation, speed call cells programmed with feature access codes are translated but the feature is not activated. This interaction is a result of limitations of speed call.
PRIB	NA	Speed calling is not supported on PRI agents.
SDS	S	Calls dialed using the speed calling feature can hit this trigger.
SFC	PS	Calls dialed using the speed calling feature can hit this trigger. Speed dialing codes are translated during the collecting information PIC. Upon invocation, speed call cells programmed with feature access codes are translated but the feature is not activated. This interaction is a result of limitations of speed call.
SIT	NA	Speed calling is not supported on trunk agents.
Specified_Carrier	UU	Not applicable

Table 154 Trigger interactions with speed call invocation (Continued)

Trigger	Status	Interactions
T_Busy	S	Calls dialed using the speed calling feature can hit these triggers.
T_NoA	S	
TAT	S	
TKTERM	N/A	

2.7.2.2 Event interactions with speed call invocation

Table 155 provides event interactions with speed call invocation.

Table 155 Event interactions with speed call invocation

Event	Status	Interactions
Network_Busy	S	Calls dialed using the speed calling feature can arm and detect this event.
O_Answer	S	
O_CPB	S	
O_NoA	S	
T_Answer	S	
T_Busy	S	
T_NoA	S	

2.7.2.3 Other interactions with speed call invocation

Table 156 provides other interactions with speed call invocation.

Table 156 Other interactions with speed call invocation

Description	Status	Interactions
Collect_Information	PS	When parameter CollectedDigits contains one of the speed call short, long, network or variable codes, the SSP translates and routes the call using the digits stored in the requested speed call cell.
Send_To_Resource	PS	When AIN prompts the user to enter digits, the user cannot depress a speed call key to provide the digits. The user can do one of the following when a normal number of digits are requested by the SCP: • enter the speed call code using abbreviated dialing (this does not work for POTS originators). The translated address is reported to the SCP. At an originating trigger, translation of the speed call code is performed using the originator's speed call dial plan. At a terminating trigger, translation of the speed call code is performed using the terminator's speed call dial plan. • enter the digits manually — When a fixed or variable number of digits are requested, the user cannot use Speed Calling to provide the digits. The speed call code is reported to the SCP instead of the translated address. — When AIN digit collection does not take place, the translated address is included in the query rather than the speed call code.
Speed call pause insertion/end to end signaling with speed call	PS	Speed call pause insertion/end-to-end signaling with speed call is a type of MDC speed calling that allows a user to include *s (telephone set pad asterisk) when programming speed calling. When the * is included at the end of the speed call cell, the call pauses to allow the user to enter additional digits. This interaction is supported by AIN. When the *s are imbedded in the digit string, the asterisk is used to separate the routing digits from the signaling digits. The signaling digits are to be outpulsed as tones over the voice connection to the termination station. ***Note:*** When a call that is invoked using speed call pause insertion with imbedded asterisks subsequently triggers, the signaling digits are discarded. They are not outpulsed over the voice connection to the terminating station.

2.8 Suppressed ringing features

This section addresses the following features:

- suppressed ringing access (SRA)
- suppressed ringing for telemetry (UTS)
- suppress line identification (SUPPRESS)

2.8.1 Suppressed ringing access

Suppressed ringing access (SRA) provides the capability to access a telephone company's customer loop without audibly ringing the telephone set(s) on the customers' premises. The SRA feature functionality is provided as part of a networked suppressed ringing service (SRS) whereby a suppressed ringing call can be originated from any point in the network, to any customer's line network-wide.

The calling party initiates a suppressed ringing call over a PRI trunk. The called number is a virtual DN that enables the call to be routed to the proper switch where the target end user's line is provisioned. At the terminating switch the SRA feature is activated upon termination to the virtual DN, and then attempts to establish the suppressed ringing connection to the target end user's DN. A virtual DN must be assigned on each switch providing SRA, and the calling party must maintain a list of the virtual DNs, mapping each target end user's DN to a specific virtual DN.

2.8.1.1 Trigger interactions with SRA

Table 157 provides trigger interactions with SRA.

Table 157 Trigger interactions with SRA

Trigger	Status	Interactions
AFR	S	On a call with SRA active, only AIN originating triggers can be encountered. Therefore, this trigger can be hit.
CDP	NA	This trigger is not supported on PRI agents.
International	UU	Not applicable
N11	S	On a call with SRA active, only AIN originating triggers can be encountered.
O_CPB	UU	Not applicable
O_NoA	UU	
OHD	S	On a call with SRA active, only AIN originating triggers can be encountered. Therefore, this trigger can be hit.
OHI	NA	This trigger is not supported on PRI agents.

Table 157 Trigger interactions with SRA (Continued)

Trigger	Status	Interactions
One_Plus_Prefix	UU	Not applicable
Operator_Services	UU	
PFC	NA	This trigger is not supported on PRI agents.
PRIB	UU	Not applicable
SDS	S	On a call with SRA active, only AIN originating triggers can be encountered. Therefore, this trigger can be hit.
SFC	NA	These triggers are not supported on PRI agents.
SIT	NA	
Specified_Carrier	UU	Not applicable
T_Busy	U	AIN terminating triggers are not hit.
T_NoA	U	
TAT	U	
TRA	U	Trigger TRA is not hit.
TKTERM	N/A	

2.8.1.2 Event interactions with SRA

Table 158 provides event interactions with SRA.

Table 158 Event interactions with SRA

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

2.8.1.3 Other interactions with SRA

Table 156 provides other interactions with SRA.

Table 159 Other interactions with SRA

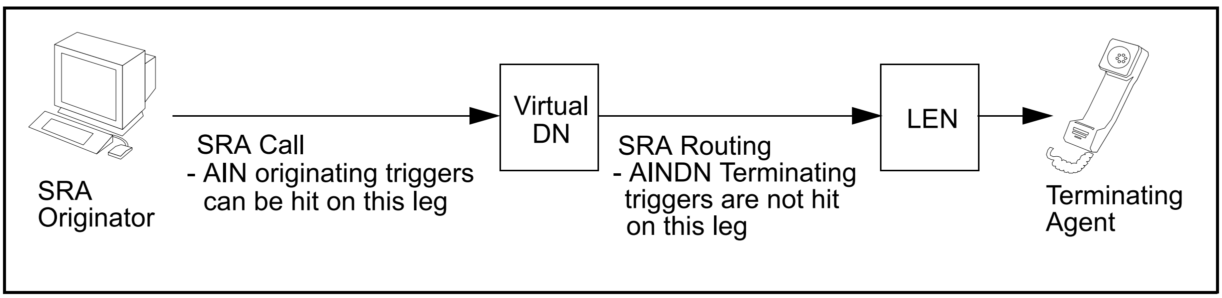
Description	Status	Interactions
parameter CarrierUsage	S	Originating AIN triggers can be hit for calls with SRA active. SRA subscribers are supported as originators by parameter CarrierUsage.

2.8.1.4 Miscellaneous information for SRA

The following section describes miscellaneous interactions with SRA.

Figure 2 illustrates how SRA interacts with AIN.

Figure 2 SRA interactions with AIN



2.8.2 Suppressed ringing for telemetry

Suppressed ringing for telemetry (UTS), also known as the utility telemetry service (UTS) allows a utility access to an end user's line for telemetry data purposes. Connections are made only when the subscriber's line is idle; there is no disruption to the subscriber's usual activities. No power ringing is applied to the subscriber's line when a connection is made. The central office service unit connects to the switch through a new class of service trunk identified as a utility telemetry (UT) Trunk.

UT Trunks are similar to MF trunks in that they do not carry any SS7 information.

2.8.2.1 Trigger interactions with UTS

Table 160 provides trigger interactions with UTS.

Table 160 Trigger interactions with UTS

Trigger	Status	Interactions
AFR	S	AIN origination or termination triggers are not encountered in a UTS call.
CDP	S	
International	S	
N11	S	
O_CPB	S	
O_NoA	S	
OHD	S	
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	S	
T_NoA	S	
TAT	S	
TRA	S	
TKTERM	N/A	

2.8.2.2 Event interactions with UTS

Table 161 provides event interactions with UTS.

Table 161 Event interactions with UTS

Event	Status	Interactions
Network_Busy	S	Since no triggers can be hit, no events can be armed or detected.
O_Answer	S	
O_CPB	S	
O_CPB	S	
O_NoA	S	
T_Answer	S	
T_Busy	S	
T_NoA	S	

2.8.2.3 Other interactions with UTS

Table 161 provides other interactions with UTS.

Table 162 Other interactions with UTS

Event	Status	Interactions
parameter CarrierUsage	NA	No AIN triggers can be hit for a UTS call.

2.8.3 Suppress line identification

The suppress line identification (SUPPRESS) option is taken into account when encoding the CallingPartyID parameter in an AIN Service Enablers query message. It is one of several factors used to determine whether to encode the field as “presentation restricted” or “presentation allowed”.

2.8.3.1 Trigger interactions with SUPPRESS

Table 163 provides trigger interactions with SUPPRESS.

Table 163 Trigger interactions with SUPPRESS

Trigger	Status	Interactions
AFR	UU	Not applicable
CDP	UU	
International	UU	
N11	UU	
O_CPB	UU	
O_NoA	UU	
OHD	UU	
OHI	UU	
One_Plus_Prefix	UU	
Operator_Services	UU	
PFC	UU	
PRIB	UU	
SDS	UU	
SFC	UU	
SIT	UU	
Specified_Carrier	UU	
T_Busy	UU	
T_NoA	UU	
TAT	UU	
TRA	UU	
TKTERM	N/A	

2.8.3.2 Event interactions with SUPPRESS

Table 164 provides event interactions with SUPPRESS.

Table 164 Event interactions with SUPPRESS

Event	Status	Interactions
Network_Busy	S	Not applicable
O_Answer	S	
O_CPB	S	
O_CPB	S	
O_NoA	S	
T_Answer	S	
T_Busy	S	
T_NoA	S	

2.8.3.3 Other interactions with SUPPRESS

Table 165 provides other interactions with SUPPRESS.

Table 165 Other interactions with SUPPRESS

Description	Status	Interactions
CallingPartyID	S	The SUPPRESS option is taken into account when encoding the CallingPartyID parameter in an AIN query message. It is one of several factors used to determine whether to encode the field as “presentation restricted” or “presentation allowed”.
parameter CarrierUsage	NA	AIN has no interaction with SUPPRESS.

2.9 Teen service features

This section addresses the following features:

- teen service (SDN)
- secondary directory number identification (SDNID)

2.9.1 Teen Service

Teen service is a terminating line option that enables one primary DN and up to three secondary DNs to be assigned to an LEN.

This section applies to N, P, and enhanced type SDNs.

2.9.1.1 Trigger interactions with SDN

Table 166 provides trigger interactions with SDN.

Table 166 Trigger interactions with SDN

Trigger	Status	Interactions
AFR	S	Originations from lines with SDNs can hit this trigger. ***Note:*** All call originations appear as though from the primary DN.
CDP	S	
International	S	
N11	S	
O_CPB	S	For intraswitch and interswitch calls, trigger O_Called_Party_Busy can be detected on calls to the primary or secondary DNs.
O_NoA	S	
OHD	S	Originations from lines with SDNs can hit this trigger. ***Note:*** All call originations appear as though from the primary DN.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	NA	SDN is not supported on PRI agents.
SDS	S	Originations from lines with SDNs can hit this trigger. ***Note:*** All call originations appear as though from the primary DN.
SFC	S	
SIT	NA	SDN is not supported on trunk agents.
Specified_Carrier	S	Originations from lines with SDNs can hit this trigger. ***Note:*** All call originations appear as though from the primary DN.
T_Busy	S	This trigger can be hit on calls to the primary or secondary DN(s).
T_NoA	S	
TAT	S	
TRA	S	
TKTERM	N/A	

2.9.1.2 Event interactions with SDN

Table 167 provides event interactions with SDN.

Table 167 Event interactions with SDN

Event	Status	Interactions
Network_Busy	S	Calls to and from SDN DNs can arm and detect this event.
O_Answer	S	
O_CPB	S	
O_NoA	S	
T_Answer	S	
T_Busy	S	
T_NoA	S	

2.9.1.3 Other interactions with SDN

Table 168 provides other interactions with SDN.

Table 168 Other interactions with SDN

Description	Status	Interactions
Subscription	S	A line with the teen services option can subscribe to the AIN line option through SERVORD. The AINDN option can be subscribed to by both the primary and enhanced secondary directory numbers through SERVORD or by datafill in table DNFEAT. Subscriptions for terminating AINDN triggers assigned to the primary directory numbers are propagated to any N or P type secondary DNs on the line. AINDN terminating triggers cannot be assigned directly to N or P type SDNs. Subscriptions of the AIN option to the secondary DNs is blocked using SERVORD. Subscriptions of the AIN option by the primary DN is propagated to any E type secondary DNs on the line. When the AINDN option is assigned, an enhanced SDN cannot be converted to an N or P type SDN using SERVORD.
ControllingLegTreatment	PS	AIN distinctive alerting and AIN distinctive alerting and call waiting take precedence over the switch-based distinctive ringing applied on SDNs. See Section 21.4.1 “AIN distinctive alerting” on page 730 and Section 21.4.2 “AIN distinctive alerting and call waiting” on page 732.
PassiveLegTreatment	PS	

Table 168 Other interactions with SDN (Continued)

Description	Status	Interactions
Collect_information	S	A Collect_Information message can route the call to an SDN.
OriginalCalledPartyID	S	When a forward_call response is received on a call that triggered on an N or P type SDN, the primary DN is used to populate parameter OriginalCalledPartyID in any subsequent AIN query messages. For an E type SDN, the ESDN is used.
Offer_Call	S	The Offer_Call response is supported with SDN types N, P and E (enhanced). CWT can only be added to the PDN of a teen service. When a call lands on an SDN with N or P type then CWT is activated. For a primary DN that has the CWT feature and type E secondary number. The BusyType parameter in T_Busy query is populated with CallCanBeOffered only when the primary number is called. For example, a call originated by dialing the type E secondary number when busy is not call waited.
Charge_Number	S	The primary DN (not the secondary DN) is placed in the charge number field for subsequent queries.
Create_Call	S	When the CallingPartyID of a Create_Call message maps to an Secondary directory number (SDN) or Enhanced Secondary Directory Number (ESDN) and ControllingLegTreatment does not apply, default “Alert Pattern 0” alerts the originator.
parameter CarrierUsage	S	

2.9.2 SDN identification (SDNID)

When a secondary directory number (SDN) places a call, the SDN identification (SDNID) feature allows the secondary number to appear as the originator of the call. Without activating this feature, the primary directory number would appear to have originated the call. SDNID affects call display, and SMDR records.

2.9.2.1 Trigger interactions with SDNID

Table 169 provides trigger interactions with SDNID.

Table 169 Trigger interactions with SDNID

Trigger	Status	Interactions
AFR	S	This trigger can be hit when a call is placed using SDNID.

Table 169 Trigger interactions with SDNID (Continued)

Trigger	Status	Interactions
CDP	S	Not applicable
International	S	
N11	S	
O_CPB	S	
O_NoA	S	
OHD	S	SDNID activation escapes OHD. However, the call can encounter OHD based on the digits dialed.
OHI	S	OHI takes precedence over SDNID. When OHI triggers, SDNID is not encountered.
One_Plus_Prefix	S	This trigger can be hit when a call is placed using SDNID.
Operator_Services	S	
PFC	S	
PRIB	NA	SDNID is not supported on PRI agents.
SDS	S	This trigger can be hit when a call is placed using SDNID.
SFC	S	
SIT	NA	SDNID is not supported on PRI agents.
Specified_Carrier	S	This trigger can be hit when a call is placed using SDNID.
T_Busy	S	
T_NoA	S	
TAT	S	
TRA	S	
TKTERM	N/A	

2.9.2.2 Event interactions with SDNID

Table 170 provides event interactions with SDNID.

Table 170 Event interactions with SDNID

Event	Status	Interactions
Network_Busy	S	This event can be armed and detected on calls placed using SDNID.
O_Answer	S	
O_CPB	S	
O_NoA	S	
T_Answer	S	
T_Busy	S	
T_NoA	S	

2.9.2.3 Other interactions with SDNID

Table 171 provides other interactions with SDNID.

Table 171 Other interactions with SDNID

Description	Status	Interactions
CallingPartyID	S	SDNID causes the CallingPartyID to be modified, so that it reflects the secondary number placing the call. This updated CallingPartyID is reflected in subsequent AIN queries.

2.10 Termination restrictions features

This section describes interactions with termination restriction features. See Table 180 “DMS-100 features” on page 720 for a complete list of termination restriction features.

2.10.1 Denied incoming

Because the denied incoming (DIN) feature is a customer-group based feature, any calls coming in from outside the customer group are denied. Any calls that are not considered intragroup as defined in IBN translations are denied even when the originator and terminator are in the same customer group.

2.10.1.1 Trigger interactions with DIN

Table 172 provides trigger interactions with DIN.

Table 172 Trigger interactions with DIN

Trigger	Status	Interactions
AFR	S	A call that encounters these triggers does not affect the functionality of DIN. DIN subscribers can hit these triggers.
CDP	S	
International	S	
N11	S	
O_CPB	S	The O_CPB trigger is encountered on a call when the called party has the DIN option.
O_NoA	UU	Not applicable
OHD	S	A call that encounters this trigger does not affect the functionality of DIN. DIN subscribers can hit this trigger.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	S	DIN has precedence over trigger T_Busy and when DIN is active, T_Busy is not encountered.
T_NoA	S	DIN has precedence over trigger T_NoA. When DIN is active, T_NoA is not encountered.

Table 172 Trigger interactions with DIN (Continued)

Trigger	Status	Interactions
TAT	S	TAT has precedence over DIN. DIN can be encountered after TAT when an authorize termination is received. DIN subscribers can hit this trigger. When a Forward_Call response is received as a result of trigger Termination_Attempt, the call is forwarded before hitting DIN. The call starts a new leg, with the Termination_Attempt subscriber as the new originator. When the Forward_Call response routes the call to a DIN subscriber, DIN checking is based on the INTRAGROUP information for the forward leg of the call and the customer group of the Termination_Attempt subscriber.
TRA	S	The SSP can not encounter trigger TRA for an intragroup call when the terminating agent subscribes to DIN.
TKTERM	N/A	

2.10.1.2 Event interactions with DIN

Table 173 provides event interactions with DIN.

Table 173 Event interactions with DIN

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	S	When an AIN Service Enablers NEL feature is active on the call, and the call routes to a line that has the DIN option, the call can encounter O_Called_Party_Busy. A call can only encounter O_Called_Party_Busy. when the treatment datafilled for this DIN feature is a treatment that indicates the terminator is busy. The BusyCause in the O_Called_Party_Busy message also depends on the treatment datafilled for this DIN feature.
O_NoA	UU	Not applicable
T_Answer	UU	
T_Busy	S	DIN takes precedence over the T_Busy event when DIN is active, then the T_Busy event is not encountered.
T_NoA	UU	Not applicable

2.10.1.3 Other interactions with DIN

Table 174 provides other interactions with DIN.

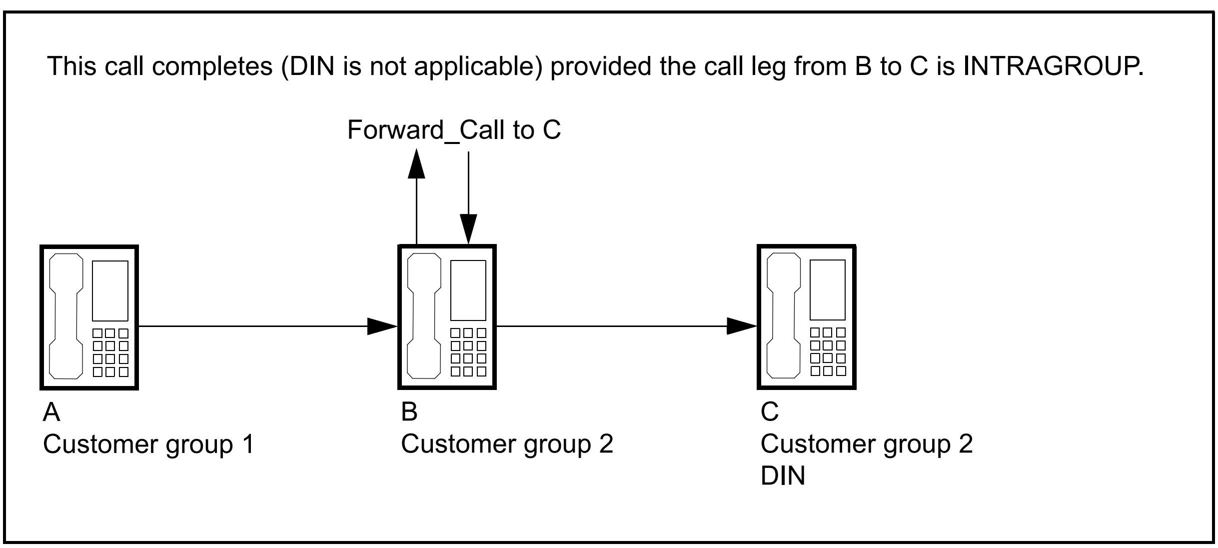
Table 174 Other interactions with DIN

Description	Status	Interactions
Monitor_For_Change request for hunt groups	S	Monitor resources determines the hunt member that is busy when the DIN option with DINE is present. Monitor resources returns unavailable resources to the SCP, when a status request for idle is received and all members are subscribed to DIN (with DINE). When DIN is added to a member after a monitor has been started, the results are unreliable.
Create_Call	S	When alerting the originator, terminating features do not activate.

2.10.1.4 Miscellaneous information for DIN

This section describes miscellaneous interactions with DIN. See Figure 3 for more details.

Figure 3 DIN Termination_Attempt with a Forward_Call response



In Figure 3, when agent A were to dial agent C directly, agent A would be denied because agents A and C are in different customer groups. When agent A dials agent B, and receives a Forward_Call response to agent C, agent A is not denied. This occurs because on the Forward_Call response leg of the call, agent B is now the originator, and the DIN option on agent C is screening against Agent B. (Agent B and C are in the same customer group).

For the case of switch-based call forwarding, the call would be denied since the actual originator is not in the same customer group as the terminator.

> ***Note:*** DIN with the DINE option (for enabling DIN on a call transfer) has the same interactions as stated previously.

2.10.2 Denied termination

For intraswitch and interswitch calls, the denied termination (DTM) feature operates at the Authorize_Termination PIC of the TCM.

2.10.2.1 Trigger interactions with DTM

Table 175 provides trigger interactions with DTM follow.

Table 175 Trigger interactions with DTM

Trigger	Status	Interactions
AFR	S	A call that encounters this trigger does not affect the functionality of DTM. DTM subscribers can hit this trigger.
CDP	S	
International	S	
N11	S	
O_CPB	S	For intraswitch and interswitch calls, the terminator is considered as BUSY when DTM is activated. The O_Called_Party_Busy trigger is detected when the originator is sent to treatment.
O_NoA	S	Calls that encounters these triggers do not affect the functionality of DTM. DTM subscribers can hit this trigger.
OHD	S	
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	

Table 175 Trigger interactions with DTM (Continued)

Trigger	Status	Interactions
T_Busy	S	DTM has precedence over trigger T_Busy and when DTM is active, T_Busy is not encountered.
T_NoA	S	DTM has precedence over trigger T_NoA. When DTM is active, T_NoA is not encountered.
TAT	S	TAT has precedence over DTM. DTM can be encountered after TAT, when an authorized termination response is received.
TRA	S	DTM takes precedence over trigger TRA.
TKTERM	N/A	

2.10.2.2 Event interactions with DTM

Table 176 provides event interactions with DTM.

Table 176 Event interactions with DTM

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	S	When the AIN Service Enablers NEL feature is active on the call, and the call routes to a line that has the DTM option, the call encounters O_Called_Party_Busy EDP-R. The busy cause in the O_Called_Party_Busy message is “Call Rejected”.
O_NoA	UU	Not applicable
T_Answer	UU	
T_Busy	S	DTM takes precedence over the T_Busy event. When DTM is subscribed, the T_Busy event is not encountered.
T_NoA	UU	Not applicable

2.10.2.3 Other interactions with DTM

Table 177 provides other interactions with DTM.

Table 177 Other interactions with DTM

Description	Status	Interactions
Monitor_For_Change request for lines	S	Monitor resources considers the line busy when DTM is present on the line and the monitor is requested for busy. Monitor resources considers the line unavailable when DTM is subscribed to the line and the monitor is requested for idle (no monitor is started on the line).
Monitor_For_Change request for hunt groups	S	Monitor resources determines the hunt member busy when the DTM option is present. Monitor resources returns unavailable resources to the SCP, when a status request for idle is received and all members are subscribed to DTM. When DTM is added to a member after a monitor has been started, the results are unreliable.
Create_Call	S	When alerting the originator, terminating features do not activate.

2.10.3 Do not disturb

Do not disturb (DND) prevents a call from terminating to the subscribed line.

2.10.3.1 Trigger interactions with DND

Table 178 provides trigger interactions with DND.

Table 178 Trigger interactions with DND

Trigger	Status	Interactions
AFR	S	A call that encounters this trigger does not affect the functionality of DND. DND subscribers can hit this trigger.
CDP	S	
International	S	
N11	S	
O_CPB	S	The O_CPB trigger is encountered on a call when the called party has the DND option.

Table 178 Trigger interactions with DND (Continued)

Trigger	Status	Interactions
O_NoA	S	A call that encounters this trigger does not affect the functionality of DND. DND subscribers can hit this trigger.
OHD	S	
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	S	DND has precedence over trigger T_Busy and when DND is active, T_Busy is not encountered.
T_NoA	S	DND has precedence over trigger T_NoA. When DND is active, T_NoA is not encountered.
TAT	S	TAT has precedence over DND. DND can be encountered after TAT, when an authorized termination is received.
TRA	S	DND takes precedence over trigger TRA.
TKTERM	N/A	

2.10.3.2 Event interactions with DND

Table 179 provides event interactions with DND.

Table 179 Event interactions with DND

Event	Status	Interactions
Network_Busy	PS	This event is closed when DND routes the call to an attendant console and the attendant answers the call. A Close message with a CloseCause of CalledPartyAnswered is sent to the SCP.
O_Answer	PS	This event is detected when DND routes the call to the attendant console and the attendant answers the call.

Table 179 Event interactions with DND (Continued)

Event	Status	Interactions
O_CPB	PS	This event is closed when DND routes the call to an attendant console and the attendant answers the call. A Close message with CloseCause of CalledPartyAnswered goes to the SCP.
O_NoA	PS	
T_Answer	PS	When DND routes the call to an attendant console, this event is closed and a Close message with a CloseCause of EDPs Completed is sent to the SCP.
T_Busy	S	
T_NoA	S	

2.10.3.3 Other interactions with DND

Table 180 provides other interactions with DND.

Table 180 Other interactions with DND

Description	Status	Interactions
Monitor_For_Change request for lines	S	Monitor resources considers the line busy when the DND option is present on the line and the monitor is requested for busy. Monitor resources considers the line unavailable when DND is subscribed to the line and the monitor is requested for idle (no monitor is started on the line).
Create_Call	S	When alerting the originator, terminating features do not activate.

2.10.4 Make busy key

The make busy key (MBK) feature creates an MBK line option. When the MBK option is assigned, a scan point circuit that is controlled by an external key is associated with the line. The external key is used to activate the MBK line option. The MBK function is to allow the set to which MBK is assigned to appear as though it is busy with respect to call forwarding. Assignment of call forwarding busy (CFB) or call forwarding busy line (CFBL) is a prerequisite for this option.

The inhibit make busy (IMB) feature inhibits the CFB service when MBK is active; therefore, any incoming calls to the base station receive busy treatment (or some other customer defined treatment), regardless of the actual busy/idle status of the base station.

The inhibit line busy (ILB), inhibits CFB service whenever the line is busy (not just made to appear busy with MBK). An incoming call to a base station that is busy is not forwarded, but instead receives Busy treatment.

2.10.4.1 Trigger interactions with MBK

Table 181 provides trigger interactions with MBK.

Table 181 Trigger interactions with MBK

Trigger	Status	Interactions
AFR	S	Calls that encounter these triggers can encounter MBK; MBK. functionality is not affected.
CDP	S	
International	S	
N11	S	
O_CPB	S	O_CPB trigger and MBK interact the same way for both intra and inter switch calls. MBK, CFB/CFBL feature (when the line state= IDLE): the OCPB trigger is not hit, and the call is forwarded by the CFB/CFBL feature assigned to MBK DN. MBK, CFB/CFBL feature (when the line state= BUSY): the OCPB trigger is not hit, and the call is forwarded by the CFB/CFBL feature assigned to MBK DN. MBK,CFB/CFBL feature, IMB option (when the line state= IDLE): the OCPB trigger is hit and the call proceeds according to the response received. MBK,CFB/CFBL feature, IMB option (when the line state= BUSY): the OCPB trigger is hit and the call proceeds according to the response received. MBK, CFB/CFBL feature, ILB option (when the line state= IDLE): the OCPB trigger is not hit, and the call is forwarded by the CFB/CFBL feature assigned to MBK DN. MBK, CFB/CFBL feature, ILB option (when the line state= BUSY): the OCPB trigger is hit and the call proceeds according to the response received.
O_NoA	S	There is no interaction between MBK and trigger O_NoA.

Table 181 Trigger interactions with MBK (Continued)

Trigger	Status	Interactions
OHD	S	Calls that encounter these triggers can encounter MBK; MBK. functionality is not affected.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	S	MBK, CFB/CFBL feature (when the line state= IDLE): trigger T_Busy is not hit and the call is forwarded by the CFB/CFBL feature assigned to the MBK DN. MBK, CFB/CFBL feature (when the line state= BUSY): trigger T_Busy is hit and the call proceeds according to the response received. MBK,CFB/CFBL feature, IMB option (when the line state= IDLE): trigger T_Busy is not hit and the call is routed to busy treatment. MBK,CFB/CFBL feature, IMB option (when the line state= BUSY): trigger T_Busy is not hit and the call is routed to busy treatment. MBK, CFB/CFBL feature, ILB option (when the line state= IDLE): trigger T_Busy is not hit and the call is routed by the CFB/CFBL feature assigned to the MBK DN. MBK, CFB/CFBL feature, ILB option (when the line state= BUSY): trigger T_Busy is hit and the call proceeds according to the response received.
T_NoA	S	The T_NoA trigger and MBK feature are mutually exclusive. There is no interaction between the two.
TAT	S	The TAT trigger takes precedence over the MBK feature. The MBK feature is encountered after the TAT trigger when the SCP does not forward the call.

Table 181 Trigger interactions with MBK (Continued)

Trigger	Status	Interactions
TRA	S	For MBK and features CFB/CFBL (when the line state= IDLE), trigger TRA is not encountered. The call is forwarded by the CFB/CFBL feature assigned to the MBK DN. For MBK and features CFB/CFBL, for the IMB option (when the line state= IDLE): trigger TRA is not encountered as the call receives a busy treatment. For MBK and features CFB/CFBL, for the ILB option (when the line state= IDLE): trigger TRA is not encountered. the call is forwarded by the CFB/CFBL feature assigned to the MBK DN.
TKTERM	N/A	

2.10.4.2 Event interactions with MBK

Table 182 provides event interactions with MBK.

Table 182 Event interactions with MBK

Event	Status	Interactions
Network_Busy	P	MBK functions correctly when the call has previously encountered the Network_Busy event.
O_Answer	PS	The O_Answer event is independent of the MBK feature and an EDP Close message is sent to the SCP when the call is forwarded by a CFB/CFBL feature assigned to an MBK DN.

Table 182 Event interactions with MBK (Continued)

Event	Status	Interactions
O_CPB	S	MBK, CFB/CFBL feature (when the line state= IDLE): the OCPB event is not detected, and the call is forwarded by the CFB/CFBL feature assigned to MBK DN. MBK, CFB/CFBL feature (when the line state= BUSY): the OCPB event is not detected, and the call is forwarded by the CFB/CFBL feature assigned to MBK DN. MBK,CFB/CFBL feature, IMB option (when the line state= IDLE): the OCPB event is detected and the call proceeds according to the response received. MBK,CFB/CFBL feature, IMB option (when the line state= BUSY): the OCPB event is detected and the call proceeds according to the response received. MBK, CFB/CFBL feature, ILB option (when the line state= IDLE): the OCPB event is not detected, and the call is forwarded by the CFB/CFBL feature assigned to MBK DN. MBK, CFB/CFBL feature, ILB option (when the line state= BUSY): the OCPB event is detected and the call proceeds according to the response received.
O_NoA	PS	The O_NoA event is independent of the MBK feature. An EDP close message goes to the SCP; the call forwards to the DN specified by the CFB/CFBL feature assigned to the MBK DN.
T_Answer	PS	The T_Answer event is independent of the MBK feature. An EDP close message goes to the SCP when the call is forwarded by the CFB/CFBL feature assigned to the MBK DN.

Table 182 Event interactions with MBK (Continued)

Event	Status	Interactions
T_Busy	S	MBK, CFB/CFBL feature (when the line state= IDLE): the T_Busy event is not detected, and the call is forwarded by the CFB/CFBL feature assigned to MBK DN. MBK, CFB/CFBL feature (when the line state= BUSY): the T_Busy event is detected, and the call proceeds according to the response received. MBK,CFB/CFBL feature, IMB option (when the line state= IDLE): the T_Busy event is not detected and the call is routed to busy treatment. MBK,CFB/CFBL feature, IMB option (when the line state= BUSY): the T_Busy event is not detected and the call is routed to busy treatment. MBK, CFB/CFBL feature, ILB option (when the line state= IDLE): the T_Busy event is not detected, and the call is forwarded by the CFB/CFBL feature assigned to an MBK DN. MBK, CFB/CFBL feature, ILB option (when the line state= BUSY): the T_Busy event is detected and the call proceeds according to the response received.
T_NoA	S	The T_NoA event is independent of the MBK feature. An EDP close message goes to the SCP; the call forwards to the DN specified by the CFB/CFBL feature assigned to the MBK DN.

2.10.4.3 Other interactions with MBK

Table 183 provides other interactions with MBK.

Table 183 Other interactions with MBK

Description	Status	Interactions
Create_Call	S	When alerting the originator, terminating features do not activate.

2.10.5 Make set busy

Make set busy (MSB) denies a call from terminating to the subscribed KSET line.

2.10.5.1 Trigger interactions with MSB

Table 184 provides trigger interactions with MSB.

Table 184 Trigger interactions with MSB

Trigger	Status	Interactions
AFR	S	A call that encounters this trigger does not affect the functionality of MSB. MSB subscribers can hit this trigger
CDP	S	
International	S	
N11	S	
O_CPB	S	
O_NoA	UU	Not applicable
OHD	S	A call that encounters this trigger does not affect the functionality of MSB. MSB subscribers can hit this trigger
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	S	MSB takes precedence over trigger T_Busy and when MSB is active, trigger T_Busy is not encountered.
T_NoA	UU	Not applicable
TAT	S	A call that encounters this trigger does not affect the functionality of MSB. MSB subscribers can hit this trigger.
TRA	S	MSB takes precedence over trigger TRA.
TKTERM	N/A	

2.10.5.2 Event interactions with MSB

Table 185 provides event interactions with MSB.

Table 185 Event interactions with MSB

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	S	When the AIN Service Enablers NEL feature is active on the call, and the call routes to a line that has the MSB or MSB intragroup (MSBI) option, the call encounters O_Called_Party_Busy EDP-R when applicable. The busy cause in the O_Called_Party_Busy message is “UserBusy”.
O_NoA	UU	Not applicable
T_Answer	UU	
T_Busy	S	MSB takes precedence over the T_Busy event. When MSB is active, the T_Busy event is not encountered.
T_NoA	UU	Not applicable

2.10.5.3 Other interactions with MSB

Table 186 provides other interactions with MSB.

Table 186 Other interactions with MSB

Description	Status	Interactions
Update message	S	Requests for “Change Status of MWI” on an agent overrides MSB.
Monitor_For_Change request for lines	S	Monitor resources considers the line busy when MSB is present on the line and the monitor is requested for busy. Monitor resources considers the line unavailable when DTM is subscribed to the line and the monitor is requested for idle (no monitor is started on the line).
Monitor_For_Change request for hunt groups	S	Monitor resources considers the hunt member busy when the MSB option is active. Monitor resources considers the hunt member idle when the MSB option is inactive.
Create_Call	S	When alerting the originator, terminating features do not activate.

2.10.6 MSB intragroup

MSB intragroup (MSBI) is a Meridian digital centrex (MDC) option that makes the station appear busy to intragroup calls while external calls are not blocked.

2.10.6.1 Trigger interactions with MSBI

Table 187 provides trigger interactions with MSBI.

Table 187 Trigger interactions with MSBI

Trigger	Status	Interactions
AFR	See Table 184 “Trigger interactions with MSB” on page 225.	
CDP		
International		
N11		
O_CPB		
O_NoA		
OHD		
OHI		
One_Plus_Prefix		
Operator_Services		
PFC		
PRIB		
SDS		
SFC		
SIT		
Specified_Carrier		
T_Busy		
T_NoA		
TAT		
TRA		
TKTERM	N/A	

2.10.6.2 Event interactions with MSBI

Table 188 provides event interactions with MSBI.

Table 188 Event interactions with MSBI

Event	Status	Interactions
Network_Busy	See Table 185 “Event interactions with MSB” on page 226.	
O_Answer		
O_CPB		
O_NoA		
T_Answer		
T_Busy		
T_NoA		

2.10.6.3 Other interactions with MSBI

Table 189 provides other interactions with MSBI.

Table 189 Other interactions with MSBI

Description	Status	Interactions
CallingPartyBGID	S	On the terminating switch, an incoming MBG call to an MDC line with MSBI receives busy tone. The customer group of the MBG call is specified in the BGID parameter and corresponds to the CallingPartyBGID parameter returned by the SCP.
Create_Call	S	When alerting the originator, terminating features do not activate.

2.10.7 Random make busy

The random make busy (RMB) feature can be assigned in one of the following three types of hunt groups: directory number hunt (DNH), multiline hunt (MLH), or distributed line hunt (DLH). The feature provides for a miscellaneous scan point circuit controlled by an external key. The line is made permanently busy when the key is activated and is normal when the key is not activated. The same scan point can be assigned to one, several, or all lines within the hunt group, depending on the lines to be made busy.

2.10.7.1 Trigger interactions with RMB

Table 190 provides trigger interactions with RMB.

Table 190 Trigger interactions with RMB

Trigger	Status	Interactions
AFR	S	Calls that encounter these triggers can encounter RMB. Calls that originate from RMB lines can hit these triggers.
CDP	S	
International	S	
N11	S	
O_CPB	S	
O_NoA	S	
OHD	S	Calls that encounter these triggers can encounter RMB. Calls that originate from RMB lines can also hit these triggers.
OHI	S	
One_Plus_Prefix	S	
Operator_services	S	
PFC	S	
PRIB	N/A	RMB is not supported on PRI agents
SDS	S	Calls that encounter these triggers can encounter RMB. Calls that originate from RMB lines can also hit these triggers.
SFC	S	
SIT	N/A	RMB is not supported on trunk agents
Specified_Carrier	S	Calls that encounter these triggers can encounter RMB. Calls that originate from RMB lines can also hit these triggers.
T_Busy	S	TBUSY has precedence over RMB. RMB can be encountered after TBSY
T_NoA	S	T_NoA and RMB are independent of each other because the call does not terminate on a RMB hunt group or RMB member.
TAT	S	TAT has precedence over RMB, RMB is encountered when the SCP responds with an Authorize_Termination.
TRA	S	RMB takes precedence over trigger TRA.
TKTERM	N/A	

2.10.7.2 Event interactions with RMB

Table 191 provides event interactions with RMB.

Table 191 Event interactions with RMB

Event	Status	Interactions
Network_Busy	S	This event can be armed/detected on calls to and from RMB lines
O_Answer	S	When the entire hunt group is RMB this event is closed. A close message with CloseCause set to callTerminated is sent to the SCP because the call does not terminate on a RMB hunt group or RMB member. When the call is routed to a LOD/LOR member that is idle, the O_Answer event is closed with close cause EDPs_completed as soon as it is routed to the LOD/LOR member.
O_CPB	S	O_CPB is detected when the entire hunt group is RMB and there is no LOD or LOR. It is also detected when the entire hunt group is RMB and the LOD or LOR is busy. When the entire hunt group is RMB and the LOD or LOR is idle, the O_CPB event is closed with close cause EDPs_completed.
O_NoA	S	When the entire hunt group is RMB this event is closed. A close message with CloseCause set to callTerminated is sent to the SCP because the call does not terminate on a RMB hunt group or RMB member. When the entire hunt group is RMB and they have a LOD or LOR member that is idle, the event is closed with EDPs_completed
T_Answer	S	
T_Busy	S	T_busy has precedence over RMB. RMB can be encountered after T_busy. When LOD or LOR is on the hunt group and the call routes to the LOD/LOR member, the event closes with EDPs_completed.
T_NoA	S	When the entire hunt group is RMB this event is closed. A close message with parameter CloseCause set to CallTerminated goes to the SCP because the call does not terminate on a RMB hunt group or RMB member. When the entire hunt group is RMB and the group has an LOD or LOR member that is idle, the event closes with EDPs_completed.

2.10.7.3 Other interactions with RMB

Table 192 provides other interactions with RMB.

Table 192 Other interactions with RMB

Description	Status	Interactions
Monitor_For_Change request for hunt groups	S	Monitor resources considers the hunt member is busy when the RMB option is present. Monitor resources returns unavailable resources to the SCP, when a status request for idle is received and all members are subscribed to RMB. When RMB is added on a member after a monitor has been started, the results are unreliable.
Create_Call	S	When alerting the originator, terminating features do not activate.

2.10.8 Plug up - place on trouble intercept

Plug up - place on trouble intercept (PLP) is used to “plug-up” single line RES, IBN, and KSET sets. Upon assigning this feature, calls can be originated from the line but cannot terminate to the line.

2.10.8.1 Trigger interactions with PLP

Table 193 provides trigger interactions with PLP.

Table 193 Trigger interactions with PLP

Trigger	Status	Interactions
AFR	S	A call that encounters this trigger does not affect the functionality of PLP. PLP subscribers can hit this trigger.
CDP	S	
International	S	
N11	S	
O_CPB	S	For intraswitch and interswitch calls the O_CPB trigger is encountered on a call when the called party has been “plugged” up.
O_NoA	UU	Not applicable

Table 193 Trigger interactions with PLP (Continued)

Trigger	Status	Interactions
OHD	S	A call that encounters this trigger does not affect the functionality of PLP. PLP subscribers can hit this trigger.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	S	PLP has precedence over trigger T_Busy and when PLP is active, T_Busy is not encountered.
T_NoA	S	PLP has precedence over trigger T_NoA; When PLP is active, T_NoA is not encountered.
TAT	S	A call that encounters trigger TAT does not affect PLP functionality. PLP subscribers can hit this trigger.
TRA	S	PLP takes precedence over trigger TRA and when PLP is active, trigger TRA is not encountered.
TKTERM	N/A	

2.10.8.2 Event interactions with PLP

Table 194 provides event interactions with PLP.

Table 194 Event interactions with PLP

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	

Table 194 Event interactions with PLP (Continued)

Event	Status	Interactions
O_CPB	S	When the AIN Service Enablers NEL feature is active on the call, and the call routes to a line that has the PLP option, the call encounters O_Called_Party_Busy EDP-R. The BusyCause in the O_Called_Party_Busy message is “Destination Out of Order”.
O_NoA	UU	Not applicable
T_Answer	UU	
T_Busy	S	PLP takes precedence over the T_Busy event. When PLP is active, then the T_Busy event is not encountered.
T_NoA	UU	Not applicable

2.10.8.3 Other interactions with PLP

Table 195 provides other interactions with PLP.

Table 195 Other interactions with PLP

Description	Status	Interactions
Monitor_For_Change request for lines	S	Monitor resources considers the line busy when the PLP option is present on the line and a monitor is requested for busy. Monitor resources considers the line unavailable when PLP is subscribed to the line and the monitor is requested for idle (no monitor is started on the line).
Monitor_For_Change request for hunt groups	S	Monitor resources considers the hunt member is busy when the PLP option is present on the pilot of the hunt group and unavailable resources is returned to the SCP. When PLP is added on a member after a monitor has been started, the results are unreliable.
Create_Call	S	When alerting the originator, terminating features do not activate.

2.10.9 SUS and RSUS

Suspended line (SUS) and requested SUS (RSUS) denies a call from terminating to the subscribed line.

2.10.9.1 Trigger interactions with SUS and RSUS

Table 196 provides trigger interactions with SUS and RSUS.

Table 196 Trigger interactions with SUS and RSUS

Trigger	Status	Interactions
AFR	S	A call that encounters this trigger does not affect the functionality of SUS/RSUS. SUS/RSUS subscribers can hit this trigger.
CDP	S	
International	S	
N11	S	
O_CPB	S	For intraswitch and interswitch calls, the O_CPB trigger is encountered on a call when the called party has the SUS/RSUS option.
O_NoA	UU	Not applicable
OHD	S	A call that encounters this trigger does not affect the functionality of SUS/RSUS. SUS/RSUS subscribers can hit this trigger.
OHI	S	
One_Plus_Prefix	S	
Operator_Services	S	
PFC	S	
PRIB	S	
SDS	S	
SFC	S	
SIT	S	
Specified_Carrier	S	
T_Busy	S	The T_Busy trigger is not detected when SUS/RSUS is activate on the line.
T_NoA	UU	Not applicable
TAT	S	A call that encounters trigger TAT does not affect SUS/RSUS functionality. SUS/RSUS subscribers can hit this trigger.
TRA	S	Trigger TRA is not detected when SUS/RSUS is active on the line.
TKTERM	N/A	

2.10.9.2 Event interactions with SUS and RSUS

Table 197 provides event interactions with SUS and RSUS.

Table 197 Event interactions with SUS and RSUS

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	S	When the AIN Service Enablers NEL feature is active on the call, and the call routes to a line that has the SUS or RSUS option, the call encounters O_Called_Party_Busy EDP-R. The BusyCause in the O_Called_Party_Busy message is "Call Rejected" for the SUS feature. For the RSUS feature, it depends on the datafilled treatment.
O_NoA	UU	Not applicable
T_Answer	UU	
T_Busy	S	SUS/RSUS takes precedence over the T_Busy event. When SUS/RSUS is active the T_busy event is not encountered.
T_NoA	UU	Not applicable

2.10.9.3 Other interactions with SUS and RSUS

Table 198 provides other interactions with SUS and RSUS.

Table 198 Other interactions with SUS and RSUS

Description	Status	Interactions
Monitor_For_Change request for lines	S	Monitor resources considers the line busy when the SUS/RSUS option is present on the line and a monitor is requested for busy. Monitor resources considers the line unavailable when SUS/RSUS is subscribed to the line and a monitor is requested for idle (no monitor is started on the line).
Monitor_For_Change request for hunt groups	S	Monitor resources considers the hunt member unavailable when the SUS option is present on the pilot of the hunt group and unavailable resources is returned to the SCP. When SUS is added on a member after a monitor has been started, the results are unreliable.
Create_Call	S	When the originator has SUS/RSUS subscribed, the Create_Call request is rejected by sending the SCP a failure message with failureCause=inappropriateUserInterface.

2.11 Three-way calling features

This section addresses the following three-way calling (3WC) features:

- three-way calling (3WC) and consultation hold (CH)
- usage sensitive three-way calling (U3WC)

2.11.1 Three-way calling (3WC and consultation hold)

3WC allows a call to be set up among three parties. As a subfeature of 3WC the consultation hold feature permits the transferring party to talk privately with the party at the transfer destination before actually transferring the call.

For all variants of Call Forward Don't Answer on POTS, RES, IBN sets, when an agent with an active call forwarding don't answer feature is in conference in a 3SC while ringing, the call regresses to the base station when an AIN trigger is encountered on the forwarding leg.

2.11.1.1 Trigger interactions with 3WC

Table 199 provides Trigger interactions with 3WC.

Table 199 Trigger interactions with 3WC

Trigger	Status	Interactions
AFR	S	This trigger can be hit on the second leg of a 3WC call.
CDP	S	This trigger can be hit on the second leg of a 3WC call.
International	S	This trigger can be hit on the second leg of a 3WC.
N11	S	This trigger can be hit on the second leg of a 3WC call.
O_CPB	S	For intraswitch and interswitch calls, the OCPB can be hit on the second leg of a 3WC.
O_NoA	S	For intraswitch and interswitch calls, the ONA trigger can be encountered on the second leg of a 3WC. ONA can even be encountered after all parties have been conferenced in.
OHD	S	This trigger can be hit on the second leg of a 3WC call.
OHI	S	These triggers are hit when the user flashes to establish the second leg of a 3WC. 3WC is not supported on PRI agents.
One_Plus_Prefix	S	These triggers can be hit on the second leg of a 3WC.
Operator_Services	S	
PFC	S	

Table 199 Trigger interactions with 3WC (Continued)

Trigger	Status	Interactions
PRIB	NA	Not applicable
SDS	S	This trigger can be hit on the second leg of a 3WC call.
SFC	S	
SIT	NA	3WC is not supported on trunk agents.
Specified_Carrier	S	This trigger can be hit on the second leg of a 3WC.
T_Busy	S	
T_NoA	PS	The T_No_Answer trigger can be encountered during a second leg of a 3WC call. While the second leg of the call is in alerting state, and when the called party (third party in the 3WC) is subscribed to T_No_Answer trigger, the T_No_Answer timer is activated, and is deactivated when establishing the 3WC by conferencing the second leg into the 3WC, while the second leg is still ringing. Once a T_No_Answer query is sent, the add-on party keeps ringing but the controller of the 3WC cannot flash to bridge the other party of the 3WC in conference before the SSP receives the response from the T_No_Answer query. That is, the SSP ignores any flash request from the controller of the 3WC.
TAT	S	This trigger can be hit on the second leg of a 3WC call.
TRA	S	Trigger TRA can be encountered on the second leg of a 3WC. A flash made during the period of time between a query and response for trigger TRA is ignored.
TKTERM	N/A	

2.11.1.2 Event interactions with 3WC

Table 200 provides event interactions with 3WC.

Table 200 Event interactions with 3WC

Event	Status	Interactions
O_Disconnect	PS	An O_Disconnect event can be armed and detected, even after 3WC feature is active, except when AIN controller and feature controller are same. When an AIN controller tries to invoke 3WC, FNAL treatment is given. When a 3WC controller tries to arm an O_Disconnect event, AINF treatment will be given.
O_Disconnect_Called	PS	An O_Disconnect_Called event can be armed and detected, even after 3WC feature is active, except when AIN controller and feature controller are same. When an AIN controller tries to invoke 3WC, FNAL treatment is given. When a 3WC controller tries to arm an O_Disconnect_Called event, AINF treatment will be given.
Timeout	PS	A Timeout event can be armed and detected, even after 3WC feature is active, except when AIN controller and feature controller are same. When an AIN controller tries to invoke 3WC, FNAL treatment is given. When a 3WC controller tries to arm a Timeout event, AINF treatment will be given. When Timeout in OCM is armed in an established 3WC, and the Timeout timer expires, if an Analyze_Route, Collect_Information, or Send_To_Resource response is received in response to the timer expiry, and this response tries to tearforward the conference controller, an unexpected communication is sent from the SSP to the SCP.
Network_Busy	PS	When an AIN Service Enablers NEL feature is active on the call, the NEL transaction is closed when a conference occurs. When a flash message is received, and the controller is multi-linked, and the AIN leg is not answered (still alerting), any active EDP-R is disarmed. A Close message with the CloseCause parameter set to “EDPs_completed” is sent to the SCP.
O_Answer	S	When the O_Answer event is open on the second leg of a call, and the 3WC originator conferences the unanswered call in, the event is not closed, and is detected when the terminator answers.

Table 200 Event interactions with 3WC (Continued)

Event	Status	Interactions
O_CPB	PS	When an AIN Service Enablers NEL feature is active on the call, the NEL transaction is closed when a conference occurs. When a flash message is received, and the controller is multi-linked, and the AIN leg is not answered (still alerting), any active EDP-R is disarmed. A Close message with the CloseCause parameter set to "EDPs_completed" is sent to the SCP.
O_NoA	S	For intraswitch and interswitch calls, the ONA event can be encountered on the second leg of a 3WC. It can even be encountered after all parties are in conference.
T_Answer	PS	When an AIN Service Enablers NEL feature is active on the call, the NEL transaction is closed when a conference occurs. When a flash message is received, and the controller is multi-linked, and the AIN leg is not answered (still alerting), any active EDP-R is disarmed. A Close message with the CloseCause parameter set to "EDPs_completed" is sent to the SCP.
T_Busy	PS	
T_NoA	PS	

2.11.1.3 Other interactions with 3WC

Table 201 provides other interactions with 3WC.

Table 201 Other interactions with 3WC

Description	Status	Interactions
Collect_Information	PS	Before the call is conferenced/bridged--when the Collect_Information message is received in reply to an ONoAnswer message, the Collect_Information message is processed and uses the dialing plan of the agent subscribed to the ONoAnswer trigger/event. When the CollectedDigits contain a VSC, the SSP sends the call to FNAL treatment. After the call is conferenced/bridged--when the Collect_Information message is received in reply to an ONoAnswer message, the call is sent to NACK treatment.
PassiveLegTreatment	S	ControllingLegTreatment and PassiveLegTreatment are not applied to the second leg of a three-way call (3WC) scenario, once the conference state is established and the terminator is ringing.
ControllingLegTreatment	S	
Set display	PS	See Section 20.24.8 "Display features limitations and restrictions" on page 704.

Table 201 Other interactions with 3WC (Continued)

Description	Status	Interactions
STR-IP	PS	When the 3WC controller flashes while the IP resource is connected to a conference, the STR-IP process is stopped by sending a Resource_Clear message to the SCP and the call reverts back to a 2-way call. Anytime the resource send back a Resource_Clear with ClearCause = Abort, then the call reverts to a two-party call. See Section 15.4.3 “Caller abandon or flash after the STR connection is established” on page 559.
ExtendedRinging	PS	When the 3WC subscriber establishes the second call leg, any STR message that includes an ExtendedRinging parameter is canceled. A Resouce_Clear message goes to the SCP with a Clear_Cause = ‘Abort’, and calling and called parties remain connected.
DPConverter	S	When a Collect_Information message containing the DP Converter Parameter is received from the SCP/Adjunct in any of the call legs of the three-way call, then the SSP will perform extended DP-to-DTMF conversion for digits received from the originating line after the call has been placed into a conference. Both DP and DTMF tones will be audible to all parties to the call. When the Collect _Information message containing the DP Converter Parameter is received from the SCP/Adjunct in the first call leg of a three-way call then the SSP will not perform DP-to-DTMF conversion for the second leg of the three way call, if DPConverter parameter is not received in this call leg.

2.11.2 Usage sensitive three-way calling

The usage sensitive three-way calling (U3WC) feature provides the 3WC feature on a pay-per-use basis. The U3WC user is charged each time the 3WC feature is requested instead of being charged a flat rate independent of the number of 3WC activations.

The U3WC feature is subscribed on an office-wide basis. During subscription, the local operating company can choose the access mechanism for U3WC. The U3WC feature can be activated by a flash signal, or by a flash signal followed by an access code.

2.11.2.1 Trigger interactions with U3WC

Table 202 provides Trigger interactions with U3WC.

Table 202 Trigger interactions with U3WC

Trigger	Status	Interactions
AFR	S	See Table 199 “Trigger interactions with 3WC” on page 236.
CDP	S	
International	S	
N11	S	
O_CPB	S	
O_NoA	S	
OHD	S	The U3WC feature interacts correctly with the Off-hook_Delay trigger. When U3WC is activated by a flash signal only and Off-hook_Delay is subscribed, then after a flash, the Off-hook_Delay trigger is encountered as soon as the user finishes dialing a DN. A second leg is then established and it is then possible for the user to establish a conference. When U3WC is activated by a flash signal followed by an access code, then after a flash it is possible for the user to first enter the U3WC access code, and then a DN. When the user finishes dialing the DN, then the Off-hook_Delay trigger is encountered. A second leg is then established and it is then possible for the user to establish a conference.
OHI	S	When U3WC is activated by a flash signal followed by an access code, then the Off-hook_Immediate trigger is encountered and the user does not have the opportunity to enter the U3WC access code. NACK treatment is applied to this call. To avoid such behavior, it is possible to assign the line option DENYU3WC. By removing the U3WC access from a line, the Off-hook_Immediate trigger can only be encountered after a flash when the line has a conference feature option assigned. When U3WC is activated by a flash signal only, then after the flash the Off-hook_Immediate trigger is encountered, and a second leg is established. It is then possible for the user to establish a conference.

Table 202 Trigger interactions with U3WC (Continued)

Trigger	Status	Interactions
One_Plus_Prefix	S	See Table 199 “Trigger interactions with 3WC” on page 236.
Operator_Services		
PFC		
PRIB		
SDS		
SFC		
SIT		
Specified_Carrier		
T_Busy		
T_NoA		
TAT		
TRA	S	Trigger TRA can be encountered on the second leg of a 3WC. A flash made during the period of time between a query and response for Trigger TRA is ignored.
TKTERM	S	

2.11.2.2 Event interactions with U3WC

Table 203 provides event interactions with U3WC.

Table 203 Event interactions with U3WC

Event	Status	Interactions
O_Disconnect	PS	Same as 3WC.
O_Disconnect_Called	PS	
Timeout	PS	

Table 203 Event interactions with U3WC (Continued)

Event	Status	Interactions
Network_Busy	S	See Table 200 “Event interactions with 3WC” on page 238.
O_Answer		
O_CPB		
O_NoA		
T_Answer		
T_Busy		
T_NoA		

2.11.2.3 Other interactions with U3WC

Table 204 provides other interactions with U3WC.

Table 204 Other interactions with U3WC

Description	Status	Interactions
See Table 201 “Other interactions with 3WC” on page 239.		

2.12 Toll restriction features

Carrier and toll restriction features prevent intra and inter LATA calls from completing for subscribers. This section describes interactions with toll restriction features. See Table 180 “DMS-100 features” on page 720 for a complete list of toll restriction features.

2.12.1 Carrier toll denial

Carrier toll denial (CTD) specifies a list of the interexchange carriers that a subscriber is denied access. CTD applies to direct dialed calls as well as operator assisted calls when equal access enhanced carrier toll denied is active.

2.12.1.1 Trigger interactions with CTD

Table 205 provides trigger interactions with CTD.

Table 205 Trigger interactions with CTD

Trigger	Status	Interactions
AFR	S	Not applicable
CDP	S	
International	UU	
N11	S	
O_CPB	UU	
O_NoA	UU	
OHD	S	
OHI	S	
One_Plus_Prefix	UU	
Operator_Services	UU	
PFC	S	
PRIB	UU	
SDS	S	
SFC	UU	
SIT	S	
Specified_Carrier	UU	
T_Busy	UU	
T_NoA	UU	
TAT	S	
TRA	UU	

2.12.1.2 Event interactions with CTD

Table 206 provides event interactions with CTD.

Table 206 Event interactions with CTD

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

2.12.1.3 Other interactions with CTD

Table 207 provides other interactions with CTD.

Table 207 Other interactions with CTD

Description	Status	Interactions
CalledPartyID	PS	Calls that return a CalledPartyID parameter with the Nature of Number field set to “950+ Call” and that route to the listed FGD carriers are denied access and are sent to IntraLata Restricted (ILRS) treatment.
Analyze_Route	S	An Analyze_Route response from the SCP can encounter CTD.
Create_Call	S	A call originated by Create_Call can encounter CTD.

Table 207 Other interactions with CTD (Continued)

Description	Status	Interactions
parameter CarrierUsage	S	Parameter CarrierUsage does not change the functionality of CTD. When the carrier provided by the SCP is selected for routing (depending on parameter CarrierUsage) and is specified in the CTD list, the call routes to InterLATA_Restricted (ILRS) treatment.
Carrier support for Send_To_Resource	S	Carrier support for Send_To_Resource does not change the functionality of CTD. If the carrier provided by the SCP to route the call to an IP located in a different LATA is specified in the CTD list, then the call is routed to the IP using the carrier sent by the SCP. To route the call to an external IP, originator's attributes are overridden by the corresponding attributes for the IP datafilled in the table STTATTRS. In case the correspondng tuple for the IP is not datafilled in the table, then the originator's attributes are used.

2.12.2 Equal access enhanced CTD

This feature builds upon CTD in that it restricts access to specified carriers for operator assisted calls.

2.12.2.1 Trigger interactions with equal access enhanced CTD

Table 208 provides trigger interactions with equal access enhanced CTD.

Table 208 Trigger interactions with equal access enhanced CTD

Trigger	Status	Interactions
AFR	S	Not applicable
CDP	S	
International	UU	
N11	S	
O_CPB	UU	
O_NoA	UU	
OHD	S	
OHI	S	
One_Plus_Prefix	UU	
Operator_Services	UU	
PFC	S	
PRIB	UU	
SDS	S	
SFC	UU	
SIT	S	
Specified_Carrier	UU	
T_Busy	UU	
T_NoA	UU	
TAT	S	
TRA	UU	
TKTERM	S	

2.12.2.2 Event interactions with equal access enhanced CTD

Table 209 provides event interactions with equal access enhanced CTD.

Table 209 Event interactions with equal access enhanced CTD

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

2.12.2.3 Other interactions with equal access enhanced CTD

Table 210 provides other interactions with equal access enhanced CTD.

Table 210 Other interactions with equal access enhanced CTD

Description	Status	Interactions
CalledPartyID	PS	As with CTD, calls that return a CalledPartyID parameter with the Nature of Number field set to “950+ Call” and that route to the listed FGD carriers are denied access and are sent to ILRS treatment.
Analyze_Route	S	An Analyze_Route response from the SCP can encounter equal access enhanced CTD.
Create_Call	S	A call originated by Create_Call can encounter equal access enhanced CTD.

Table 210 Other interactions with equal access enhanced CTD

Description	Status	Interactions
parameter CarrierUsage	S	Parameter CarrierUsage does not change the functionality of Equal access enhanced CTD. When the carrier provided by the SCP is selected for routing (depending on parameter CarrierUsage) and is specified in the CTD list, the call routes to InterLATA_Restricted (ILRS) treatment.
Carrier support for Send_To_Resource	S	Carrier support for Send_To_Resource does not change the functionality of Equal access enhanced CTD. If the carrier provided by the SCP to route the call to an IP located in a different LATA is specified in the CTD list of the originator, then the call is routed to the IP using the carrier sent by the SCP. To route the call to an external IP, originator's attributes are overridden by the corresponding attributes for the IP datafilled in the table STTATTRS. In case the correspondng tuple for the IP is not datafilled in the table, then the originator's attributes are used.

2.12.3 InterLATA full carrier toll denied

InterLATA full carrier toll denied (FCTDNTER) allows the subscriber to specify a list of supported InterLATA carriers or to deny access to all InterLATA carriers. FCTDNTER applies to direct dialed calls as well as operator assisted calls when equal access enhanced carrier toll denied is active.

> ***Note:*** The FCTDNTER functionality is controlled by equal access SOC option EQA00015 (IntraLATA PIC Enh Ph 1).

2.12.3.1 Trigger interactions with FCTDNTER

Table 211 provides trigger interactions with FCTDNTER.

Table 211 Trigger interactions with FCTDNTER

Trigger	Status	Interactions
AFR	S	Not applicable
CDP	S	
International	S	
N11	S	
O_CPB	UU	
O_NoA	UU	
OHD	S	
OHI	S	
One_Plus_Prefix	UU	
Operator_Services	UU	
PFC	S	
PRIB	NA	This trigger is not supported on POTS lines. TDN is only supported on POTS lines.
SDS	S	Not applicable
SFC	UU	These triggers are not supported on POTS lines. TDN is only supported on POTS lines.
SIT	NA	
Specified_Carrier	S	Not applicable
T_Busy	UU	
T_NoA	UU	
TAT	S	
TRA	UU	
TKTERM	S	

2.12.3.2 Event interactions with FCTDNTER

Table 212 provides event interactions with FCTDNTER.

Table 212 Event interactions with FCTDNTER

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

2.12.3.3 Other interactions with FCTDNTER

Table 213 provides other interactions with FCTDNTER.

Table 213 Other interactions with FCTDNTER

Description	Status	Interactions
CalledPartyID	PS	As with CTD, calls that return a CalledPartyID parameter with the Nature of Number field set to “950+ Call” and that route to FGD carriers are denied access and the call is sent to ILRS treatment.
Analyze_Route	S	An Analyze_Route response from the SCP can encounter FCTDNTER.
Create_Call	S	A call originated by Create_Call can encounter FCTDNTER.

Table 213 Other interactions with FCTDNTER (Continued)

Description	Status	Interactions
parameter CarrierUsage	S	Parameter CarrierUsage does not change the functionality of FCTDNTER. When the carrier provided by the SCP is selected for routing (depending on parameter CarrierUsage) and is denied (in the case of an Interlata call), the call routes to TDND treatment.
Carrier support for Send_To_Resource	S	Carrier support for Send_To_Resource does not change the functionality of Interlata full carrier toll denied feature. If the carrier provided by the SCP to route the call to an IP located in a different LATA is specified in the FCTDNTER list, then the call is routed to the IP using the carrier sent by the SCP. To route the call to an external IP, originator's attributes are overridden by the corresponding attributes for the IP datafilled in the table STTATTRS. In case the correspondng tuple for the IP is not datafilled in the table, then the originator's attributes are used.

2.12.4 Toll denial

Toll denial (TDN) prevents a RES subscriber from originating direct dialed or operator assisted toll calls.

Calls that return a CalledPartyID parameter with the nature of number field set to "950+ Call" and that route to FGD carriers are denied access and the call is sent to toll denied (TDND) treatment.

2.12.4.1 Trigger interactions with TDN

Table 214 provides trigger interactions with TDN.

Table 214 Trigger interactions with TDN

Trigger	Status	Interactions
AFR	S	TDN takes precedence over this trigger. When a toll call is dialed, the originator receives TDND treatment and this trigger is not hit.
CDP	NA	This trigger is not supported on POTS lines. TDN is only supported on POTS.
International	UU	Not applicable
N11	S	
O_CPB	UU	
O_NoA	UU	

Table 214 Trigger interactions with TDN (Continued)

Trigger	Status	Interactions
OHD	PS	TDN takes precedence over OHD. WHEN a toll call is dialed, the originator receives TDND treatment and the OHD trigger is not hit.
OHI	S	OHI takes precedence over TDN
One_Plus_Prefix	UU	Not applicable
Operator_Services	UU	
PFC	NA	This trigger is not supported on POTS lines. TDN is only supported on POTS.
PRIB	UU	Not applicable
SDS	S	TDN takes precedence over this trigger. When a toll call is dialed, the originator receives TDND treatment and this trigger is not hit.
SFC	NA	This trigger is not supported on POTS lines. TDN is only supported on POTS.
SIT	S	Not applicable
Specified_Carrier	UU	
T_Busy	UU	
T_NoA	UU	
TAT	S	A call that has passed TDN screening can hit this trigger.
TRA	S	A call that passed TDN screening can hit this trigger.
TKTERM	S	

2.12.4.2 Event interactions with TDN

Table 215 provides event interactions with TDN.

Table 215 Event interactions with TDN

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

2.12.4.3 Other interactions with TDN

Table 216 provides other interactions with TDN.

Table 216 Other interactions with TDN

Description	Status	Interactions
CalledPartyID	PS	Calls that return parameter CalledPartID with the nature of number field set to “950+call” and route to FGD carriers, are denied access and the call is sent to TDND treatment.
Analyze_Route	S	An Analyze_Route response from the SCP encounters TDN.
Create_Call	S	A call originated by Create_Call can encounter TDN.
parameter CarrierUsage	S	Parameter CarrierUsage does not change the functionality of TDN. When the carrier provided by the SCP is selected for routing (depending on parameter CarrierUsage) and is specified in the TDN list, the call routes to Toll_Denied (TDND) treatment.
Carrier support for Send_To_Resouce	S	Carrier support for Send_To_Resouce does not change the functionality of TDN. While routing the call to an IP in a different LATA, SCP specified carrier would only be used.

2.12.5 Toll diversion

Toll diversion (TDV) diverts the originator’s toll calls to an attendant console. It prevents toll calls or calls to a toll operator from completing without the assistance of an attendant. When an attendant console is not available, the call is blocked and sent to TDND treatment.

2.12.5.1 Trigger interactions with TDV

Table 217 provides trigger interactions with TDV.

Table 217 Trigger interactions with TDV

Trigger	Status	Interactions
AFR	S	Not applicable
CDP	S	
International	S	
N11	S	
O_CPB	UU	
O_NoA	UU	
OHD	S	
OHI	S	
One_Plus_Prefix	UU	
Operator_Services	UU	
PFC	S	
PRIB	UU	
SDS	S	
SFC	UU	
SIT	S	
Specified_Carrier	S	
T_Busy	UU	
T_NoA	UU	
TAT	S	
TRA	UU	
TKTERM	S	

2.12.5.2 Event interactions with TDV

Table 218 provides event interactions with TDV.

Table 218 Event interactions with TDV

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

2.12.5.3 Other interactions with TDV

Table 219 provides other interactions with TDV.

Table 219 Other interactions with TDV

Description	Status	Interactions
CalledPartyID	PS	Calls that return a CalledPartyID parameter with the Nature of Number field set to “950+ Call” and that route to FGD carriers are blocked or diverted by TDV.
Analyze_Route	S	An Analyze_Route response from the SCP can encounter TDV.
Create_Call	S	A call originated by Create_Call can encounter TDV.
parameter CarrierUsage	S	Parameter CarrierUsage does not change the functionality of TDV.
Carrier support for Send_To_Resource	S	Carrier support for Send_To_Resource does not change the functionality of TDV. While routing the call to an IP in a different LATA, SCP specified carrier would only be used.

2.13 Uniform call distribution

Uniform call distribution (UCD) allows for an even distribution of incoming calls to a listed directory number (virtual number). Each station in the UCD group has its own directory number. Calls cannot originate from a UCD DN.

2.13.1 Trigger interactions with UCD

Table 220 provides trigger interactions with UCD.

Table 220 Trigger interactions with UCD

Trigger	Status	Interactions
AFR	UU	Not applicable
CDP	UU	
International	UU	
N11	UU	
O_CPB	PS	For intraswitch and interswitch calls, the O_Called_Party_Busy trigger can be detected when the originating party tries to terminate a call on an agent that has subscribed to a UCD group. When all the members of the UCD group are busy during the call attempt, and the UCD overload treatment is set to routing the overloaded calls to an external DN, then depending on the status of the external DN (busy or ringing), the O_Called_Party_Busy trigger can be detected. However, when the UCD overload treatment is set to routing the overloaded calls to an announcement, the O_Called_Party_Busy trigger is not detected.
O_NoA	PS	For intraswitch and interswitch calls, the O_No_Answer trigger can be detected when the originating party tries to terminate a call on an agent that has subscribed to a UCD group. When all the members of the UCD group are busy during the call attempt, and the UCD overload treatment is set to routing the overloaded calls to an external DN, then depending on the status of the external DN (busy or ringing), the O_No_Answer triggers can be detected. However, when the UCD overload treatment is set to routing the overloaded calls to an announcement, the O_Called_Party_Busy and O_No_Answer triggers is not detected.

Table 220 Trigger interactions with UCD (Continued)

Trigger	Status	Interactions
OHD	UU	Not applicable
OHI	UU	
One_Plus_Prefix	UU	
Operator_Services	UU	
PFC	UU	
PRIB	UU	
SDS	UU	
SFC	UU	
SIT	UU	
Specified_Carrier	UU	
T_Busy	U	Subscription to T_Busy is blocked.
T_NoA	U	Subscription to T_NoA is blocked.
TAT	UU	Not applicable
TRA	U	Subscription to trigger TRA is blocked.
TKTERM	N/A	

2.13.2 Event interactions with UCD

Table 221 provides event interactions with UCD.

Table 221 Event interactions with UCD

Event	Status	Interactions
Network_Busy	PS	When this event is armed, and the call terminates on a UCD DN and a close message (with a Close Cause of EDPs_Completed) is sent to the SCP.
O_Answer	PS	
O_CPB	PS	
O_CPB	PS	
O_NoA	PS	

Table 221 Event interactions with UCD (Continued)

Event	Status	Interactions
T_Answer	U	Terminating triggers cannot be subscribed to by UCD DNs. Therefore, terminating NELs cannot be armed on calls terminating to UCD DNs.
T_Busy	U	
T_NoA	U	

2.13.3 Other interactions with UCD

Table 222 provides other interactions with UCD.

Table 222 Other interactions with UCD

Description	Status	Interactions
Update_message	PS	Update requests for 'Change Status of MWI' on members of UCD shall be processed successfully. Update requests on the listed directory number (virtual DN) in the MWI context fails because it does not map to any single physical DN.
CollectInformation	S	When the collected digits parameter contains digits that correspond to a UCD DN, the SSP routes the call to the UCD agent.
Create_Call	S	When the originator has UCD, the Create_Call request is rejected by sending the SCP a failure message with failureCause=inappropriateUserInterface.

2.14 Virtual facility group features

The following virtual facility group (VFG) features:

- virtual facility group (VFG)
- virtual facility group look ahead (VFGLA)

2.14.1 VFG and VFGLA

VFG is a customer group-based facility that is used to throttle or limit the number of simultaneous active calls routing through. A VFG can change the characteristics of a call.

2.14.1.1 Trigger interactions with VFG and VFGLA

Table 223 provides trigger interactions with VFG and VFGLA.

Table 223 Trigger interactions with VFG and VFGLA

Trigger	Status	Interactions
AFR	S	This trigger can be hit after the call is routed through a VFG. This trigger can be hit prior to routing through a VFG.
CDP	S	
International	S	
N11	S	
O_CPB	PS	When a call goes through a VFG before triggers O_Called_Party_Busy or O_No_Answer are hit, OTS screening is performed on the modified call characteristics.
O_NoA	PS	When a call goes through a VFG before trigger O_No_Answer is hit, OTS screening is performed on the modified call characteristics.
OHD	PS	This trigger is only hit prior to routing through a VFG.
OHI	S	This trigger can be hit only prior to routing through a VFG.
One_Plus_Prefix	S	This trigger can be hit after the call is routed through a VFG. This trigger can be hit prior to routing through a VFG.
Operator_Services	S	
PFC	S	
PRIB	S	This trigger can be hit prior to routing through a VFG.
SDS	S	This trigger can be hit after the call is routed through a VFG. This trigger can be hit prior to routing through a VFG.
SFC	UU	Not applicable
SIT	S	This trigger can be hit prior to routing through a VFG.
Specified_Carrier	S	This trigger can be hit after the call is routed through a VFG.This trigger can be hit prior to routing through a VFG.
T_Busy	U	VFG cannot subscribe to trigger T_Busy.
T_NoA	U	VFG cannot subscribe to trigger T_No_Answer.
TAT	S	This trigger can be hit after the call is routed through a VFG.

Table 223 Trigger interactions with VFG and VFGLA (Continued)

Trigger	Status	Interactions
TRA	PS	VFG cannot subscribe to trigger TRA. A call can encounter trigger TRA after the call routes through a VFG number to a physical DN.
TKTERM	S	

2.14.1.2 Event interactions with VFG and VFGLA

Table 224 provides event interactions with VFG and VFGLA.

Table 224 Event interactions with VFG and VFGLA

Event	Status	Interactions
Network_Busy	S	When the AIN Service Enablers NEL feature is active, and the AIN call goes through a Virtual Facility Group (VFG) feature, the NEL transaction remains open and any active originating EDP-Rs and EDP-Ns remain armed. When the counter for a VFG group reaches its maximum, the VFG group is considered busy and the Network_Busy detection point is encountered.
O_Answer	S	When the AIN Service Enablers NEL feature is active, and the AIN call goes through a Virtual Facility Group (VFG) feature, the NEL transaction remains open and any active originating EDP-Rs and EDP-Ns remain armed.
O_CPB	S	
O_CPB	S	
O_NoA	S	
T_Answer	S	
T_Busy	S	
T_NoA	S	
O_Disconnect	S	O_Disconnect event is armed and the call is retranslated by VFG, then the O_Disconnect event will be closed with a CloseCause “eDPs Completed”. O_Disconnect event that are armed before the call has been redirected will be detected when the Originator disconnects.
O_Disconnect_Called	S	O_Disconnect_Called can be armed and detected after the call had been retranslated by VFG.

2.14.1.3 Other interactions with VFG and VFGLA

Table 225 provides other interactions with VFG and VFGLA follow

Table 225 Other interactions with VFG and VFGLA

Description	Status	Interactions
SMDR	S	When an AIN call goes through a VFG and the incoming side of the VFG requests an SMDR record, information from the last AIN response is stored in DF04 records.
PrimaryTrunkGroupID	S	When attempting to route a call using an AR response with a PrimaryTrunkGroupID, AlternateTrunkGroupID, and a SecAlternateTrunkGroupID to VFG selectors, multiple VFGs can be throttled for the one call depending on the datafill and setup of the VFGs and trunk circuits.
AlternateTrunkGroupID	S	
AlternateTrunkGroupID	S	
Continue	S	When a public VFG matches on SDS trigger digits and when a continue is sent, the call routes through the VFG and can encounter the same trigger again. This occurs because the VFG retranslates the call.
Response translations	S	When a trigger is hit after encountering a VFG, the VFG attributes are used for response translations.
VFGLA	S	When VFGLA occurs and an AIN OCM trigger encounters an AR response having a different VFG from the one reserved by the VFGLA, the call throttles the VFG indicated in the AR response. Also, the call continues to hold onto the VFG reserved by VFGLA until it completes.
Create_Call	S	When the CallingPartyID of a Create_Call message maps to a VFG, the Create_Call request is rejected with FailureCause=InappropriateUserInterface. A call originated by Create_Call can terminate to a VFG.
Carrier support for Send_To_Resource	S	Carrier support for Send_To_Resource does not change the functionality of VFG or VFGLA. While routing the call to an IP in a different LATA, SCP specified carrier would only be used.

2.15 WATS features

All individual based triggers, OFFHKIMM, OFFHKDEL, and individual AFR are not supported for the WATS line. Subscription to these triggers are blocked in SERVORD.

2.15.1 Enhanced WATS access line

This section describes interactions with Outwats and enhanced universal Outwats.

2.15.1.1 Outward WATS

Outward WATS (OWT) or two-way WATS (TWW) allows subscribers to make calls to specified geographic areas (zones or bands) at special billing rates.

2.15.1.1.1 Trigger interactions with OWT Table 226 provides trigger interactions with OWT.

Table 226 Trigger interactions with OWT

Trigger	Status	Interactions
AFR	PS	When an OWT or TWW subscriber dials a number outside the allowed zone, the call is sent to treatment without encountering this trigger. Individual-based AFR cannot be assigned to a line with LCC equal to OWT or TWW. Subscription is blocked in SERVORD.
CDP	S	When an OWT or TWW subscriber dials a number outside the allowed zone, the call triggers at CDP since CDP is encountered before band screening.
International	S	When an OWT or TWW subscriber dials a number outside the allowed zone, the call is sent to treatment without encountering this trigger.
N11	S	
O_CPB	UU	Not applicable
O_NoA	UU	
OHD	U	This trigger cannot be assigned to a line with LCC equal to OWT or TWW. Subscription to this trigger is blocked in SERVORD.
OHI	U	
One_Plus_Prefix	S	When an OWT or TWW subscriber dials a number outside the allowed zone, the call is sent to treatment without encountering this trigger.
Operator_services	S	
PFC	UU	Not applicable
PRIB	UU	
SDS	S	When an OWT or TWW subscriber dials a number outside the allowed zone, the call is sent to treatment without encountering this trigger.
SFC	UU	Not applicable
SIT	UU	

Table 226 Trigger interactions with OWT (Continued)

Trigger	Status	Interactions
Specified_Carrier	S	When an OWT or TWW subscriber dials a number outside the allowed zone, the call is sent to treatment without encountering this trigger.
T_Busy	UU	Not applicable
T_NoA	UU	
TAT	UU	
TRA	UU	
TKTERM	N/A	

2.15.1.1.2 Event interactions with OWT

Table 227 provides event interactions with OWT.

Table 227 Event interactions with OWT

Event	Status	Interactions
AFR	PS	When an OWT (OWT) or two-way wats (TWW) subscriber dials a number outside the allowed zone, the call is sent to treatment without encountering this trigger. Individual-based AFR cannot be assigned to a line with LCC equal to OWT or TWW. Subscription is blocked in SERVORD.
CDP	S	When an OWT (OWT or two-way wats (TWW) subscriber dials a number outside the allowed zone, the call triggers at CDP since CDP is encountered before band screening.
International	S	When an OWT (OWT) or two-way wats (TWW) subscriber dials a number outside the allowed zone, the call is sent to treatment without encountering this trigger.
N11	S	When an OWT (OWT) or two-way wats (TWW) subscriber dials a number outside the allowed zone, the call is sent to treatment without encountering this trigger.
O_CPB	UU	Not applicable
O_NoA	UU	
OHD	U	This trigger cannot be assigned to a line with LCC equal to OWT or TWW. Subscription to this trigger is blocked in Servord.
OHI	U	This trigger cannot be assigned to a line with LCC equal to OWT or TWW. Subscription to this trigger is blocked in Servord.

2.15.1.1.3 Other interactions with OWT Table 228 provides other interactions with OWT.

Table 228 Other interactions with OWT

Description	Status	Interactions
Analyze_route	PS	The call goes to treatment when the following two criteria are both met: • The Analyze_Route response does not contain parameter TrunkGroupID. • The destination zone falls outside the allowed termination.
Create_Call	S	The call goes to treatment when the destination zone falls outside of the allowed termination.

2.15.1.2 Enhanced and universal outwats

Enhanced outwats (EOW) or Enhanced two-way WATS (ETW) allows the subscriber to select, at the time of purchase, the list of long distance companies to use for the OWT calls. The EWAL line option is used to specify the carriers that can be used from the WATS line. Universal OWT extends OWT by allowing the subscriber to select the long distance company on a per call basis, as opposed to having to pre-establish the list of companies ahead of time.

2.15.1.2.1 Trigger interactions with EOW Table 229 provides trigger interactions with EOW.

Table 229 Trigger interactions with EOW

Trigger	Status	Interactions
AFR	S	For EOW and ETW lines, band screening takes precedence over this trigger. Individual-based AFR cannot be assigned to a line with LCC equal to EOW or ETW. Subscription is blocked in SERVORD.
CDP	S	When an EOW or ETW subscriber dials a number outside the allowed zone, the call is sent to treatment without encountering this trigger.
International	S	Not applicable
N11	S	When an EOW or ETW subscriber dials a number outside the allowed zone, the call is sent to treatment without encountering this trigger.
O_CPB	UU	Not applicable
O_NoA	UU	

Table 229 Trigger interactions with EOW (Continued)

Trigger	Status	Interactions
OHD	U	This trigger cannot be assigned to a line with LCC equal to EOW or ETW. Subscription to this trigger is blocked in SERVORD.
OHI	U	
One_Plus_Prefix	S	Not applicable
Operator_services	S	
PFC	UU	
PRIB	UU	
SDS	S	When an enhanced outwats (EOW) or enhanced two-way wats (ETW) subscriber dials a number outside the allowed zone, the call is sent to treatment without encountering this trigger.
SFC	UU	Not applicable
SIT	UU	
Specified_Carrier	S	
T_Busy	UU	
T_NoA	UU	
TAT	UU	
TRA	UU	
TKTERM	N/A	

2.15.1.2.2 Event interactions with EOW

Table 230 provides event interactions with EOW.

Table 230 Event interactions with EOW

Event	Status	Interactions
Network_Busy	UU	Not applicable
O_Answer	UU	
O_CPB	UU	
O_NoA	UU	
T_Answer	UU	
T_Busy	UU	
T_NoA	UU	

2.15.1.2.3 Other interactions with EOW

Table 231 provides other interactions with EOW.

Table 231 Other interactions with EOW

Description	Status	Interactions
AIN response processing	S	The carrier returned in the SCP response must be one of the carriers specified by the EWAL option, except when the universal WATS (UWATS) option is listed. The UWATS option allows the use of any carrier designated on the call. The call is routed to the designated carrier when the carrier is listed in the EWAL, the UWATS is listed in the EWAL or the ChargeNumber is present in the SCP response. Otherwise the call is sent to treatment.

Table 231 Other interactions with EOW (Continued)

Description	Status	Interactions
ChargeNumber	S	The call is not sent to treatment when a ChargeNumber is received from the SCP, event when the carrier and UWATS are not listed in the EWAL. The call is routed to the carrier returned by the SCP without band screening even when required by the carrier.
Create_Call	S	The carrier included in the Create_Call message must be one of the carriers specified by the EWAL line option, except for when the universal WATS (UWATS) option is listed. The UWATS option allows the use of any carrier designated on the call. The call routes to the designated carrier when: - the carrier is listed in the EWAL; - the UWATS is listed in the EWAL; or - the ChargeNumber is present in the Create_Call message. Otherwise, the call goes to treatment.

3 Attendant console interactions

This section provides a list of attendant console features (Table 232) that are supported to interwork with AIN Service Enablers. This list identifies the support of each feature as “Category A” or “Category B”.

Generally, console features in “Category A” are supported with AIN Service Enablers. Features in “Category B” have no interaction with SDS, N11, encounter TAT triggers and NELs.

See also Section 20.6 “Attendant console limitations” on page 682.

Table 232 Attendant console features

Feature name	Category A	Category B
Alarm call status on Attendant Console		X
Attendant Call Detail Entry	X	
Attendant Conference (max. six conferees)	X	
Attendant Console Activation/Deactivation of CFU/CFI		X
Attendant Control of Virtual Facility Groups (VFGs)		X
Attendant Console Monitor Display (ACMON)		X
Attendant Console OMs on an Individual-Console Basis		X
Attendant Console to ACD	X	
Attendant Console to UCD	X	
Attendant Extended Calls to CFB/CFNA	X	
Attendant Message Waiting		X
Audio Input on Incoming Calls in Queue		X
Autodial	X	
Automatic Recall	X	

Table 232 Attendant console features (Continued)

Feature name	Category A	Category B
Attendant Transfer		X
Authorization Codes	X	
Busy Verification Station	X	
Busy verification Trunk	X	
Call Hold / Call Hold Recall Timer		X
Call Hold with Audio		X
Call Park / Call Park Recall Timer	X	
Call Selection		X
Call Waiting Recall		X
Camp-on / Camp-on Recall	X	
Camp On with Music		X
Centralized Consoles (Host and Remote Line Equipment)		X
Code-Calling Line Termination		X
Conference	X	
Console Display		X
Console Operator Login		X
Console Test		X
Control of Trunk Group Access		X
Cut-Through Dialing	X	
Delayed Operation	X	
Display of Queued Calls by ICI Key		X
Do Not Disturb	X	
DTMF End-to-End Signaling		X
Dynamic Attendant Console Measurements		X
Flexible Console Alerting		X
Flexible Display Language		X
Immediate Answer Reporting for IBN		X
Immediate Notification of Priority Enqueued Calls		X

Table 232 Attendant console features (Continued)

Feature name	Category A	Category B
Interposition Calls and Transfers		X
ISUP Trunks to AC Interworking		X
Local Consoles		X
Locked-Loop Operation		X
Lockout		X
Loopback Reduction for ISUP/AC		X
Loudspeaker Paging and Line Termination, rewrite		X
Loudspeaker and Radio Paging Access		X
MAP Display for Attendant OMs	X	
Maximum Number of Consoles		X
Multiple Console Operation		X
Multiple Listed Directory Numbers		X
Night Service, Fixed	X	
Night Service, Flexible	X	
Night Service, Trunk Answer From any Station		X
No Answer Recall	X	
Peg Counts on Listed DNs on AC	X	
Position Busy		X
Query Time and Date		X
Recorded Announcement		X
Release upon Completion of Dialing	X	
Remote Consoles		X
Secrecy	X	
Semi-Restricted Lines Call Intercept		X
Serial Call	X	
Speed Call	X	
Straightforward Outward Completion	X	
Supervisory Console (Basic)		X

Table 232 Attendant console features (Continued)

Feature name	Category A	Category B
Switched Loop Operation		X
Through Dialing	X	
Timed Recall Set to Zero		X
Trouble Key on MDC Console		X
Trunk Group Busy Indication		X
Trunk Group Busy/Trunk Access Control thru Special Keys		X
Trunk Busy Verification Tone		X
Two-Way Splitting		X
Uniform Call Distribution from Queue		X
Virtual Facility Group Trunk Group Busy on AC		X
Wildcard Key	X	
Network attendant features		
Network Attendant Control - including Network No_answer Timeout Recall and Flash Recall		X
Network Camp On including Network Camp-on Recall		X
Network CLID and NCOS Display for AC		X
Network Busy Verification Lines		X
NAS Attendant Console RTL Special Function Key		X
NAS Features Optionality		X

3.1 Attendant conference with NEL

If the AIN Service Enablers NEL feature is active on the call and an AC conference feature occurs, then the NEL transaction is closed and any active EDP-Rs and EDP-Ns are disarmed. A Close message with the CloseCause parameter set to “EDPs_completed” is sent to the SCP.

The AIN Service Enablers NEL feature may be activated when the AC puts the conference on hold to add a new party to the conference. The EDP-Rs and EDP-Ns may be detected for this new call leg. However, if the AC presses the loop key to put the new call leg on hold while the NEL is still armed, a Close message with the CloseCause parameter set to “EDPs_completed” is sent to the SCP.

Further descriptions of the interactions between AIN Service Enablers and the AC conference feature will be provided in the next release of this document.

3.2 Call Park with NEL

If the AIN Service Enablers NEL feature is active on the call and the attendant parks the call, then call processing closes the NEL transaction and disarms any active EDP-Rs and EDP-Ns. The SSP sends to the SCP a Close message with the CloseCause parameter set to “EDPs_completed”.

3.3 Attendant console display

When an attendant console encounters an SDS, N11 or TAT trigger, the console displays “PLEASE WAIT” while waiting for the SCP response. This display replaces the one that was done for LNP for NA008. All console keys are blocked while the console waits.

3.4 Attendant features

The AINDN option cannot be assigned to an attendant console (AC). Triggers T_Busy and T_No_Answer cannot be encountered for calls terminating on ACs.

When calls originate from an AC, the call cannot hit triggers T_Busy and T_No_Answer.

3.5 Multiple extended transactions and AC features

All active OCM NELs on the call (except O_Ans NELs) deactivate as soon as the call encounters an AC agent. When appropriate conditions match, O_Ans EDP-Ns are sent to the SCP.

4 Other interactions

The purpose of this chapter is to document interactions between various AIN functionalities (for example, intra-AIN interactions).

4.1 AIN Essentials feature interactions

The interaction between triggers T_Busy and T_No_Answer with AIN Essentials is supported.

4.2 AIN virtual directory number (VDN)

For intraswitch calls, the O_CPB and O_NOA triggers can be encountered on calls terminating on an AIN termination attempt (TAT) VDN agent that is supported with only the Authorize_Termination response.

Triggers T_Busy and T_NOA cannot be detected on calls terminating on an AIN TAT (VDN).

Trigger TRA can be encountered after the PVN trigger but not vice versa.

4.3 Automatic Code Gapping (ACG)

This section ddescribes ACG interactions with other features.

4.3.1 OFCPFC trigger

ACG is a network management mechanism used in the control of network congestion. If a SCP becomes congested with queries, it can request that a SSP slows down or stops sending queries for a desired length of time. When ACG gaps a call, the call is offered to default routing. If default routing does not apply, the call is sent to AIN Final Treatment.

When ACG control is applied, OFCPFC trigger queries are not sent to the SCP. The call is processed normally from the next point in the call.

4.4 Carrier support for Send_To_Resource

This section describes interactions with Carrier support for Send_To_Resource.

4.4.1 Trigger interactions with Carrier support for Send_To_Resource

There are no trigger interactions with Carrier support for Send_To-Resource.

4.4.2 Event interactions with Carrier support for Send_To_Resource

There are no event interaction with Carrier support for Send_To-Resource.

4.4.3 Other interactions with Carrier support for Send_To_Resource

This section describes Carrier support for Send_To_Resource interactions with Toll Restriction and Virutal Facility Group (VFG) features.

4.4.3.1 Toll restriction features

Table 273 provides interactions with Toll restriction features.

Table 233 Interactions with Toll restriction features

Feature	Status	Interaction
CTD	S	Carrier toll denial (CTD) specifies a list of the interexchange carriers that a subscriber is denied access. CTD applies to direct dialed calls as well as operator assisted calls when equal access enhanced carrier toll denied is active. This activity does not change the functionality of CTD. If the carrier provided by the SCPto route the call to an IP located in a different LATA is specified in the CTD list, then the call is routed to the IP using the carrier sent by the SCP. To route the call to an external IP, originator's attributes are overridden by the corresponding attributes for the IP datafilled in the table STTATTRS. In case the correspondng tuple for the IP is not datafilled in the table, then the originator's attributes are used.
Equal access enhanced CTD	S	This feature builds upon CTD in that it restricts access to specified carriers for operator assisted calls. This activity does not change the functionality of Equal access enhanced CTD. If the carrier provided by the SCP to route the call to an IP located in a different LATA is specified in the CTD list of the originator, then the call is routed to the IP using the carrier sent by the SCP. To route the call to an external IP, originator's attributes are overridden by the corresponding attributes for the IP datafilled in the table STTATTRS. In case the correspondng tuple for the IP is not datafilled in the table, then the originator's attributes are used.

Table 233 Interactions with Toll restriction features (Continued)

Feature	Status	Interaction
FCTDNTER	S	InterLATA full carrier toll denied (FCTDNTER) allows the subscriber to specify a list of supported InterLATA carriers or to deny access to all InterLATA carriers. FCTDNTER applies to direct dialed calls as well as operator assisted calls when equal access enhanced carrier toll denied is active. This activity does not change the functionality of Interlata full carrier toll denied feature. If the carrier provided by the SCP to route the call to an IP located in a different LATA is specified in the FCTDNTER list, then the call is routed to the IP using the carrier sent by the SCP. To route the call to an external IP, originator's attributes are overridden by the corresponding attributes for the IP datafilled in the table STTATTRS. In case the correspondng tuple for the IP is not datafilled in the table, then the originator's attributes are used.
TDN	S	Toll denial (TDN) prevents a RES subscriber from originating direct dialed or operator assisted toll calls. This activity does not change the functionality of TDN. While routing the call to an IP in a different LATA, SCP specified carrier would only be used.
TDV	S	Toll diversion (TDV) diverts the originator's toll calls to an attendant console. It prevents toll calls or calls to a toll operator from completing without the assistance of an attendant. When an attendant console is not available, the call is blocked and sent to TDND treatment. This activity does not change the functionality of TDV. While routing the call to an IP in a different LATA, SCP specified carrier would only be used.

4.4.3.2 Virtual Facility Group (VFG) features

Table 274 provides interactions with Virtual Facility Group (VFG) features.

Table 234 Interactions with Virtual Facility Group (VFG) Features

Feature	Status	Interaction
Virtual Facility Group (VFG)	S	This activity does not change the functionality of VFG. While routing the call to an IP in a different LATA, SCP specified carrier would only be used.
Virtual Facility Group Look Ahead (VFGLA	S	This activity does not change the functionality of VFGLA. While routing the call to an IP in a different LATA, SCP specified carrier would only be used.

4.5 Collect_Information message feature interactions

The following section describes interactions with Collect_Information.

4.5.1 AIN Send_Notification and Termination_Notification

When a Send_Notification component accompanies a Collect_Information message and the CollectedDigits parameter does not satisfy the dialing plan in force, the SSP sends a Termination_Notification message containing a TerminationIndicator with the ExceptionIndicator field set to yes.

When a Send_Notification component accompanies a Collect_Information message and the CollectedDigits parameter satisfies the dialing plan in force but the call results in a treatment as opposed to a connection (for example, confirmation of activation of ACB), the SSP sends a Termination_Notification message containing a TerminationIndicator with the ExceptionIndicator field set to yes.

When a Send_Notification component accompanies a Collect_Information message and the CollectedDigits parameter results in a confirmation tone or announcement (for example, confirmation of activation of ACB on a busy line), the SSP sends a Termination_Notification message containing a TerminationIndicator with the ExceptionIndicator field set to yes.

4.6 Connect_To_Resource interactions

This section details interactions between Connect_To_Resource and other AIN functionality:

When a MidCall event is armed in the call, Ain/CPH controller cannot invoke any switch based feature other than Callwait (CWT).

Ain/CPH cannot invoke Callwait when connected to the resource. The agent attempting to call Ain/CPH controller, when connected to resource, will hear a busy treatment.

When an agent subscribed to CWT is connected to the resource and a call waiting call lands on the agent, busy treatment is given to the agent of the CWT call.

4.7 Create_Call message

The following section describes interactions with Create_Call.

4.7.1 OHI and OHD

When an agent subscribes to trigger OHI or OHD, and when a Create_Call message originates a call from one of these triggers, the call does not hit a trigger.

4.8 Default routing

For intraswitch calls, detection of triggers O_NOA and O_CPB can only occur at the originating party, when default routing is present at the terminating end of the call.

4.8.1 DCR Handicap Removal for AIN Default routing (Canadian market)

The DCR handicap is removed on a call incoming on a DCR trunk when AIN default routing is used, and when default routing provides the destination DN. Calls incoming on a DCR trunk can use the DCR recommended tandem routes to route calls towards the final destination.

4.8.2 Trigger TRA

Default Routing is not supported for trigger TRA. The call processes from the next point in call and the terminator is alerted.

4.8.3 Trigger TKTERM

Default routing is supported for trigger TKTERM trigger.

4.9 Geodetic Location Parameters in AIN and TAT triggers

This section details interactions with Geodetic Location Parameters in AIN and TAT triggers.

The CGLP/GDLP parm is populated in Termatt and InfoAnal TDP, even when switch based or AIN based redirection occurs prior to encountering Termatt or Info_anal triggers.

4.9.1 Serial Triggering

The following scenario describes the behavior when location-based calls encounter serial triggering. In this scenario, all queries to the SCP are populated with the new parameters

Incoming call on ISUP trunk from wireless switch

--> encounters N11(on DMS100), Info_Anal query to SCP

--> SCP Response Continue (call terminates to party B who is subscribed to TAT)

--> TAT trigger, TAT query to SCP

--> SCP Response Forward Call to party C (which is a SDS number)

--> SDS trigger, Info_Anal query to SCP

--> SCP Response Analyze Route to Party D

In serial triggering and subsequent queries, the new parameters are sent out expecting SCP logic to decide the use of the new parameters.

4.10 O_CPB and O_NoA trigger screening

This section details the interactions between the O_CPB and O_NoA trigger screening (OTS) feature and other AIN functionality.

When an AIN trigger is hit before the O_Called_Party_Busy or the O_No_Answer TDP, any information on the original call could be overridden by the information returned from the SCP. Therefore, when the call information is modified by AIN before the O_CPB and O_NoA triggers are hit, OTS screening is performed on the call information returned by the SCP.

4.11 O_Called_Party_Busy and O_No_Answer triggers

This section describes the interaction between triggers O_Called_Party_Busy and O_No_Answer with other AIN functionalities that can impact trigger functionality. It is assumed that triggers O_Called_Party_Busy and O_No_Answer are added to the subscriber's line or the specific trunk.

4.11.1 AIN toll-free service

For intraswitch and interswitch calls, the O_Called_Party_Busy and O_No_Answer triggers are supported when a call encounters a tool-free number that is not datafilled in PODPATTR table.

Triggers T_Busy and T_No_Answer are detected when the E800 (or any type of toll free features) terminates to a DN that subscribes to the T_Busy or T_No_Answer trigger.

When the CollectedDigits parameter contains an E800 number (TR-533), the SSP activates the E800 service and queries the E800 database.

When the user dials an E800 number and the PRETRAN option is subscribed in table NSCDEFS and the E800 response directs the call to an AIN SDS number that the Collect_Information message is received, the processing of the Collect_Information message uses the pretranslator subscribed in NSCDEFS when the calltype is appropriate. Local call area screening and originating toll restrictions are bypassed since it is an E800 call.

The SSP encounters the Channel_Setup_PRI trigger when the incoming PRI B-channel receives digits of a toll-free call and the digits are not an escape code.

It is possible for the OTS digit screening to screen out 800, 888 and 900 calls by entering the appropriate digit patterns in table TIESCDIG. However, this screening only applies when the query to the 800-database is not done from the originating switch. When the 800 query is done from the originating office, the

OTS digit screening is performed on the DN returned by the database, and not on the dialed number. When the 800 query is done from another office, the OTS digit screening applies as usual to the dialed number.

4.11.2 Default routing

For intraswitch and interswitch calls, the AIN Default routing feature, when active, dictates the next step occurring to the call (that is, either sent to a treatment or an announcement or routed to another DN depending on the datafill) after encountering an expired AIN T1 response timer or a return error message from the SCP. This feature is not supported by the AIN Service Enablers O_Called_Party_Busy and O_No_Answer triggers. In case the AIN T1 response timer has expired or in case of a return error message from the SCP, the treatment applied to the originator is the treatment that would have been applied when the O_Called_Party_Busy or O_No_Answer trigger was never encountered.

4.11.3 Interswitch user interaction for Send_To_Resource

For intraswitch and interswitch calls, when the O_Called_Party_Busy trigger is detected and the SCP responds with a Send_To_Resource message, the busy tone is not applied to the originator. The call processing that follows is determined by Send_To_Resource processing.

When the O_No_Answer trigger is detected and the SCP responds with a Send_To_Resource response, the ringing applied to both originating and terminating agents is not interrupted. The call processing that follows is determined by Send_To_Resource processing.

4.11.4 No-Answer condition detection feature interactions with NEL

The following is a description of No_Answer condition detection feature interactions with NEL.

4.11.4.1 Precedence condition

The O_Called_Party_Busy NEL has precedence over trigger O_Called_Party_Busy. When a Continue response message (without an RRBCME) is received after querying has been activated (due to the detection of an O_Called_Party_Busy event), trigger O_Called_Party_Busy can be encountered.

4.11.5 Termination_Attempt trigger

Trigger O_CPB is encountered when a call to a Termination_Attempt (TAT) DN triggers and it responds with an Authorize_Termination response and the TAT DN party or station is either busy or does not answer. Redirection information returned in the Analyze_Route response to the O_CPB or O_NOA query, is treated as a redirection of the call.

4.11.6 Feature precedence

The O_Called_Party_Busy event has precedence over trigger O_Called_Party_Busy and other AIN functionalities such as special delivery service. The O_Called_Party_Busy trigger can be detected when a Continue message is returned from the SCP.

Triggers OCPB and ONOA have precedence over switch-based features such as special delivery service. Switch-based features are detected only when triggers OCPB and ONOA are not encountered, or when a Continue response is received from the SCP.

4.11.7 Feature with conversation and AIN Send_To_Resource

The Send_To_Resource response is a valid response resulting from an O_Called_Party_Busy and O_No_Answer query and is supported by triggers O_Called_Party_Busy and O_No_Answer.

4.12 Office_Public_Feature_Code trigger

This section describes how the Office_Public_Feature_Code trigger interacts with other triggers.

4.12.1 PFC and SFC triggers

When the same VSC (Vertical Service Code) is datafilled for all PFC, SFC and OFCPFC triggers, the trigger hit depends on the priority of the feature. Among the above features, the order of priority in decreasing order is SFC line, SFC customer group wide, PFC line, PFC customer group wide, OFCPFC.

4.12.2 Update Message

Update Message allows the SCP to activate or deactivate any trigger subscription, including OFCPFC. Using the TriggerItemID and SSPUserResourceID contained in a TriggerItemAssignment, the SCP sets the appropriate trigger to the value of the ActivationStateCode. The ActivationStateCode can be either ON or OFF. When the OFCPFC trigger state is ON state, it can be encountered. When the OFCPFC trigger state is OFF, it cannot be encountered.

4.12.3 Default Routing

Default Routing is not supported for the OFCPFC trigger. The call is processed normally from the next point in call.

4.12.4 Automatic Code Gapping (ACG)

ACG is a network management mechanism used in the control of network congestion. If a SCP becomes congested with queries, it can request that a SSP slows down or stops sending queries for a desired length of time. When ACG gaps a call, the call is offered to default routing. If default routing does not apply, the call is sent to AIN Final Treatment.

When ACG control is applied, OFCPFC trigger queries are not sent to the SCP. The call is processed normally from the next point in the call.

4.13 Public_Feature_Code trigger

This section describes how the Public_Feature_Code trigger interacts with other triggers.

4.13.1 OFCPFC and SFC triggers

When the same VSC (Vertical Service Code) is datafilled for all PFC, SFC and OFCPFC triggers, the trigger hit depends on the priority of the feature. Among the above features, the order of priority in decreasing order is SFC line, SFC customer group wide, PFC line, PFC customer group wide, OFCPFC.

4.14 Specific_Feature_Code trigger

This section describes how the Specific_Feature_Code trigger interacts with other triggers.

4.14.1 AIN customer dialed plan trigger

When a Customer Dialed Plan (CDP) trigger that is assigned to a customer group uses the same feature code as the SFC trigger, the SFC trigger takes precedence. Because SFC is subscribed on a line basis and CDP on a group bases, the SFC is encountered first in the call.

4.14.2 OFCPFC and PFC triggers

When the same VSC (Vertical Service Code) is datafilled for all PFC, SFC and OFCPFC triggers, the trigger hit depends on the priority of the feature. Among the above features, the order of priority in decreasing order is SFC line, SFC customer group wide, PFC line, PFC customer group wide, OFCPFC.

4.14.3 Feature precedence

Individually subscribed triggers take precedence over group based subscribed triggers.

4.15 T_Busy and T_No_Answer triggers

Feature interactions for these triggers are similar to those of T_Busy and T_No_Answer events. Interactions between triggers T_Busy and T_No_Answer with the respective events, and triggers O_CPB, and O_NOA are supported.

4.15.1 Detecting the No-Answer condition interactions with NEL

The following is a description of No-Answer condition detection, feature interactions with NEL.

4.15.2 Feature precedence between triggers or events T_Busy and T_No_Answer

The T_Busy and T_No_Answer events have precedence over the T_Busy and T_No_Answer triggers terminating features such as Call Waiting, Call Forward Busy or Call Forward Don't Answer. The T_Busy and T_No_Answer triggers cannot be detected when an event is armed. The triggers can be detected when a Continue message is returned from the SCP in response to a T_Busy or T_No_Answer EDP-R query.

The T_Busy and T_No_Answer triggers have precedence over terminating features, such as call waiting or call forward busy. Please refer to Section 23.2.2 "Call forward busy features" on page 806 and Section 23.6.1 "Call waiting" on page 857 respectively.

4.15.2.1 AIN Primer

The AIN Primer product was retired by activity AU3201 in the NA011 release. No interaction with AIN Primer is possible.

4.15.2.2 AIN Essentials

Interaction with AIN Essentials is supported.

4.15.2.3 NEL Interactions

When trigger TRA is encountered, the armed T_busy event closes.

When trigger TRA is encountered, NELs T_Answer, T_NoAnswer and OCM remain active.

When TKTERM trigger is encounterd the armed TNOA and Tbusy event close.

When TAT/AT arms a TNOA EDP-R and trigger TRA receives an STR response (to local/remote IP), the call terminates to an IP through a PRI/ISUP trunk. The TNOA NEL remains active on the call. Upon receiving a Continue response to trigger TRA after a Resource_Clear, the call terminates to the original terminator and the TNOA EDP-R is detected on time out.

The Continue response for trigger TRA can arm EDP-R TNOA and EDP-N T_Answer. When a Continue response for trigger TRA arms a second TNOA EDP-R after TAT/AT armed the first TNOA EDP-R, the first TNOA EDP-R closes. A Close message is sent to the SCP with the closeCause parameter set to 'edpsCompleted' (according to a Bellcore agreement for not having 2 NELs armed in the TCM). The Continue response for trigger TRA can also arm the EDP-R T_Busy. This NEL closes when the call is answered or the originator goes on-hook. A Close message is sent with closeCause parameter set to 'callTerminated' (when the originator goes on-hook), and 'calledPartyAnswered' (when the call is answered).

The TCM NELs armed earlier close when the Forward Call response is received for trigger TRA. The interaction with first leg OCM NELs with TRA/FC is similar to TAT/FC interactions. The TRA/FC can arm all OCM NELs supported by the SSP (Network_Busy, O_Called_Party_Busy, O_No_Answer, O_Answer).

4.15.2.4 Interaction with Termination Attempt (TAT) trigger

Trigger Termination attempt (TAT) takes precedence over trigger TRA, as TAT is encountered at the T_NULL PIC of the TCM (comes before Select_Facility PIC where TRA trigger is encountered).

Trigger TRA can be encountered when an Authorize Termination (AT) response is received after trigger TAT, and the terminator has subscribed to trigger TRA. Please refer to “Figure 1 AIN0.2 Terminating Basic Call Model” on page 165.

The only other trigger at the termination_Attempt TDP is the termination_Attempt trigger which can be assigned to DNs and virtual DNs. By precedence rules for multiple triggers at the same TDP, the TAT trigger for DNs (TAT) takes precedence over the TKTERM. However, the TKTERM has no interactions with the TAT trigger since they are assigned on different subscriber types.

4.15.2.5 Interaction with Terminator Busy (T_Busy) trigger and event

Both trigger TRA and trigger/EDP-R T_Busy are encountered at the Select_Facility PIC of the TCM. Please refer to “Figure 1 AIN0.2 Terminating Basic Call Model” on page 165.

When feature CWT is not assigned to the agent subscribed to both trigger TRA and trigger T_BUSY, only one of these trigger will be encountered depending upon the line state.

When feature CWT is not assigned to the agent subscribed to trigger TRA and EDP- T_BUSY is armed, only one of these will be encountered depending upon the line state.

When the agent is busy and has subscribed to feature CWT, and triggers TRA and T_Busy, then trigger T_BUSY will be encountered first. upon receiving a Continue or OfferCall response, trigger TRA will be encountered when the call can be waited. Upon receiving a Continue response for a TRA query, feature CWT will be encountered.

When the agent is busy and has subscribed to feature CWT and trigger TRA and EDP-R T_Busy is armed, then EDP-R T_BUSY E will be encountered first. Upon receiving a Continue or OfferCall response, trigger TRA will be encountered when a call can be waited. Upon receiving a Continue response for a TRA query, feature CWT will be encountered.

4.15.2.6 Interaction with Terminator No Answer (T_NOA) trigger

Trigger TRA takes precedence over trigger Terminator No Answer (TNOA), because trigger TRA is encountered at the Select_Facility PIC of the TCM, (which comes before T_Alerting PIC where TNOA trigger is encountered). Please refer to “Figure 1 AIN0.2 Terminating Basic Call Model” on page 165T_NOA trigger can be encountered after TRA trigger query is sent to the SCP and a Continue response message is received from the SCP.

4.15.2.7 Interaction with Create_Call

When a call is established due a Create_Call request from the SCP, trigger TRA will be encountered when the DN specified in the CalledPartyID parameter of the Create_Call message is subscribed to trigger TRA.

4.15.2.8 Serial Triggering

When the SSP detects trigger TRA, the serial trigger count increments and the SSP sends a Request message to the SCP. When the serial trigger count exceeds the MAX_SERIAL_TRIGGER_COUNT (defined in table OFCENG), the TRA query is not sent. The call processes from the next point in call and the terminator is alerted.

4.16 Update message

This section describes how Update message interacts with other features.

4.16.1 OFCPFC trigger

Update Message allows the SCP to activate or deactivate any trigger subscription, including OFCPFC. Using the TriggerItemID and SSPUserResourceID contained in a TriggerItemAssignment, the SCP sets the appropriate trigger to the value of the ActivationStateCode. The ActivationStateCode can be either ON or OFF. When the OFCPFC trigger state is ON state, it can be encountered. When the OFCPFC trigger state is OFF, it cannot be encountered.

4.17 Cross scenarios

The following cross-scenarios can occur:

1. The O_CPB event is armed and the T_Busy trigger is subscribed to terminator.

   The T_Busy trigger has precedence over the O_CPB event. When the terminator is busy, a T_Busy query is sent to the SCP. When a Continue response is received, the O_CPB query is sent.

2. The O_CPB trigger is subscribed to originator and the T_Busy trigger is subscribed to terminator.

When the terminator is busy, the T_Busy trigger query is sent. When the SCP sends a Continue response, then the O_CPB trigger is encountered.

3. The O_No_Answer event is armed and the T_Busy trigger is subscribed to terminator.

   When the terminator is busy, a close message is sent for the O_No_Answer event armed and the T_Busy query is sent.When the terminator is alerted, the T_ONoAnswer timer is started, and when the timer expires, the O_No_Answer event EDP-R is sent.

4. The O_No_Answer trigger is subscribed to originator and the T_Busy trigger is subscribed to terminator.

   When the terminator is busy, the T_Busy trigger query is sent.When the terminator is alerted, the T_ONoAnswer timer is started, and when it expires, the O_No_Answer trigger query is sent.

5. The T_Busy event is armed and the T_Busy trigger is subscribed to terminator.

   The T_Busy EDP-R is sent.

6. The T_Busy event is armed and the T_No_Answer trigger is subscribed to terminator.

   When the terminator is busy, the T_Busy EDP-R is sent.When the terminator is alerted, a Close message is sent for the T_Busy event and the T_TNoAnswer timer is started, and when it expires, the T_No_Answer query is sent.

7. The O_No_Answer event is armed and the T_No_Answer trigger is subscribed to terminator.

   The transaction timer that expires first, queries the SCP. The transactions query the SCP in the order that the timers expired.

8. The O_No_Answer trigger is subscribed to originator and the T_No_Answer trigger is subscribed to terminator.

   The transaction timer that expires first, queries the SCP. The transactions query the SCP in the order that the timers expired.

   - The trigger whose timer value is smaller takes precedence.
   - Even when the timer T_TNoAnswer expires first, the T_No_Answer query is sent and forward call response redirecting the call to D is being processed, when the Analyze Route response due to O_No_Answer query is received, the call towards agent D is cleared and the Analyze Route response is processed.
   - When the T_TNoAnswer timer is sufficiently less than the T_ONoAnswer timer such that, before the Analyze_Route response due to the O_No_Answer query is received, the agent D (the agent

forwarded to by the Forward call response) has answered, then the Analyze Route response is discarded.

9. The O_CPB event is armed and the T_No_Answer trigger is subscribed to terminator.

   When the terminator is busy, the O_CPB event EDP-R is sent. When the terminator is alerted, a close message is sent for the O_CPB event armed and when the terminator does not answer until the timer T_TNoAnswer expires, the T_No_Answer query is sent.

10. The O_CPB trigger is subscribed to originator and the T_No_Answer trigger is subscribed to terminator.

    When the terminator is busy, the O_CPB trigger query is sent.When the terminator is alerted, the T_TNoAnswer timer is started, and when it expires, the T_No_Answer trigger query is sent.

11. The T_No_Answer event is armed and the T_No_Answer trigger is subscribed to a terminator.

    The T_TNoAnswer timer is started, and when it expires, the T_No_Answer EDP-R is sent. When a Continue response is received, the T_No_Answer trigger is started with the full value of T_TNoAnswer.

12. The T_No_Answer event is armed and the T_Busy trigger is subscribed to a terminator.

    When the terminator is busy, a Close message is sent for the T_No_Answer event armed and the T_Busy query is sent. When the terminator is alerted, the T_TNoAnswer timer is started, and when it expires, the T_No_Answer EDP-R is sent.

4.18 STR - IP feature interactions

This section addresses STR - IP feature interactions with the following functionality.

- parameter ForwardCallIndicator
- AIN re-triggering
- DCR handicap removal (Canadian market only)

4.18.1 AIN retriggering

AIN is not allowed to re-trigger in an STR connection at any of the SSPs involved in the connection. Any AIN triggering attempts are denied.

4.18.2 FowardCallIndicator parameter

The AIN Send_To_Resource connection to an IP (STR/IP) sets the ISDN User Part Preference field to “ISDN User Part Required All The Way” when routing over ISUP facilities to a remote IP. Any AIN triggers encountered on the same call that returned an Analyze_Route response with the ForwardCallIndicator parameter prior to the STR/IP response, the parameter's ISDN User Part Preference field value is ignored when routing over ISUP to the IP.

Furthermore, for any subsequent routing over ISUP once the STR/IP transaction has completed (for example, routing to the address indicated by collected digits), the last ForwardCallIndicator's value returned in an Analyze_Route response before the STR/IP response is sent out in the ISUP Initial Address Message (IAM).

See also Section 20.3.17 "Parameter ForwardCallIndicator" on page 678 for further explanations.

4.18.3 DCR handicap removal (Canadian market only)

The DCR handicap is removed for a call incoming on a DCR trunk when the SSP receives a Send_To_Resource to an external resource (IP) from the SCP. The SSP can use DCR recommended tandem routes to route the call to the IP.

> ***Note 1:*** When the SSP receives a Send_To_Resource to an external resource, the DCR handicap is removed. When the SSP receives a Send_To_Resource to an internal resource, the DCR handicap is not removed.
>
> ***Note 2:*** With a Continue, an Authorize_Termination, or an Offer_Call response with an intermediate Send_To_Resource to an external resource, the DCR handicap is removed during STR processing to route the call to an external resource (IP). With a Continue, an Authorize_Termination, or an Offer_Call response without an intermediate Send_To_Resource to an external resource, the DCR handicap is not removed.

4.19 Netbusy EDP-R interactions with AFR trigger and Netbusy EDP-R Interworking with DCR

Netbusy EDP-R is encountered when the DCR blocks the call and if NETBUSY NEL is armed.

4.19.1 DCR handicap removal (Canadian market only)

The DCR handicap is removed for a call incoming on a DCR trunk, when the SSP receives a Send_To_Resource to an external resource (IP) from the SCP. The SSP can use DCR recommended tandem routes to route the call to the IP.

> ***Note 1:*** When the SSP receives a Send_To_Resource to an external resource, the SSP removes the DCR handicap so that calls incoming on a DCR trunk can use DCR recommended tandem routes when routing to the external resource. When the SSP receives a Send_To_Resource to an internal resource, the SSP does not remove the DCR handicap.
>
> ***Note 2:*** With a Continue, an Authorize_Termination, or an Offer_Call response with an intermediate Send_To_Resource to an external resource,

the SSP removes the DCR handicap during STR processing. With a Continue, an Authorize_Termination, or an Offer_Call response without an intermediate Send_To_Resource to an external resource, the SSP does not remove the DCR handicap.

4.20 Toll-free service interactions

Toll-free service on AIN Service Enablers interacts with the following:

- Switched based services - GR-2892 calls interact with switched based services in the same manner as AIN Service Enablers SDS trigger does.
- Coin lines - Service Enablers' toll-free service is similar to E800 and returns the coin on toll-free calls.
- AIN Service Enablers - All other AIN Service Enablers attributes are accessible on AIN Service Enablers' toll-free calls. However, not all Service Enablers messages are supported by GR2892 and it is up to SCP to act accordingly. When any Service Enablers specific messages are received, they are not blocked. The call proceeds by the rules of AIN Service Enablers.
- AIN Essentials triggers - These triggers can be encountered before or after AIN Service Enablers' toll-free processing. In addition, please note the following:
  - Though 800 Plus has a limitation of OCM queries not allowed after an 800P response, AIN TFS for 800P does not have this restriction. AIN TFS does not deleberately block any of the OCM triggers.
  - AIN TFS can route to all TCM triggers.
  - AIN TFS for 800P response does not route to an 800P number if it is on the same switch.
  - 800P response does not route to an AIN TFS for 800P number if it is on the same switch.
- CarrierUsage functionality: CarrierUsage functionality is not supported for AIN Toll Free Services (AIN TFS). When an AIN TFS number returned in a response message (Analyze_Route, Forward_Call) is associated with the carrier, parameter CarrierUsage is set to 'AlwaysOverride(0)'. That is, while routing the AIN TFS call, parameter CarrierUsage is ignored. When an AIN TFS trigger receives a response message, the carrier field is mandatory in the response, and parameter CarrierUsage is set to 'AlwaysOverride(0)'.
- TRA trigger: Trigger TFS can be encountered after the call encounters trigger TRA and a Forward Call response is received. After trigger TFS is encountered and an Analyze Route response is received, the call can encounter trigger TRA when the called party in the Analyze Route response has subscribed to trigger TRA and is available.

- LARP option: When using TFS in option LARP, set parameters REDIR and FWDATTR in table TRIGITM to 'N'.
- The TFS trigger can be encountered after the call has encountered TKTERM trigger and Forward Call response is received. After TFS trigger is encountered and Analyze Route response is received, the call can encounter the TKTERM trigger if the called party in the Analyze Route response translates to a trunk group that has subscribed to TKTERM trigger and is available.

4.21 TRAVER

Traver appropriately annotates each of the following NA010 AIN SE SOC controlled functionality:

- Channel_Setup_PRI trigger
- OHD Esc Intercom for CENTREX
- Collect_Information message processing

When the SOC option that controls the above functionality is IDLE, a warning message is displayed indicating that the simulated path is different than the call processing path.

4.22 CDPCODE trigger versus E800/800P interworking

The Operating company is allowed to choose the precedence between the E800/800P and CDP trigger. This precedence is controlled by the SOC AIN00312. The precedence can be set by administering the office parameter AIN_800CDP_PRECEDENCE in table OFCVAR and the precedence option AINPRECE in table CUSTSTN against a customer group. If the SOC AIN00312 is IDLE, then E800/800P has precedence over CDP trigger irrespective of the above options.

When a subscriber from a customer group dials an access_code (say 9, where 9 is the CDP trigger) + 8XX Toll Free number, the precedence between E800/800P and CDP trigger will be decided by the office parameter AIN_800CDP_PRECEDENCE and the precedence option AINPRECE administered against that Customer group.

4.22.1 Step 1: Datafilling office parameter AIN_800CDP_PRECEDENCE

The office parameter has two values, 800 and CDP. The default value is 800 signifying E800/800P as default precedence over CDP trigger on office wide. Setting the office parameter value to CDP changes the precedence from 800 to CDP trigger office wide.

4.22.1.1 Sample datafill for AIN_800CDP_PRECEDENCE

The datafilling procedure for AIN_800CDP_PRECEDENCE office parameter in table OFCVAR is explained below:

1 In response to PARMNAME prompt, type AIN_800CDP_PRECEDENCE. This is the name for the 800/CDP trigger precedence office parameter.

2 In response to PARMVAL prompt, type either 800 or CDP to indicate the 800/CDP trigger precedence type. Default value is 800.

Table 235 Sampe AIN_800CDP_PRECEDENCE datafilled in table OFCVAR

PARMNAME	PARMVAL
AIN_800CDP_PRECEDENCE	800
AIN_800CDP_PRECEDENCE	CDP

4.22.2 Step 2: Datafilling table CUSTSTN

The customer group option is provided for granularity on customer groups. A particular customer group can choose 800 or CDP to be the precedence overriding the office wide option.

4.22.2.1 Sample datafill for table CUSTSTN

For the following examples, the originating IBN agents belong to customer groups COMKODAK and RESG613. Table 236 illustrates the precedence provisioning against a customer group.

The datafilling procedure is explained below:

1 In response to CUSTNAME prompt, enter a valid customer group name.

2 In response to OPTNAME prompt, type AINPRECE. This is the option name for AIN trigger precedences.

3 In response to OPTION prompt, type AINPRECE.

4 In response to AIN_PRECEDENCE_TYPE prompt, type 800CDP. This is option name for 800/CDP trigger precedence option.

5 In response to PRECEDENCE prompt, type 800 or CDP to choose the precedence type. This would set the precedence for that customer group

Table 236 Sampe AIN_800CDP_PRECEDENCE datafilled in table OFCVAR

KEY		OPTION		
CUSTNAME	**OPTNAME**	**OPTION**	**AIN_PRECEDENCE_TYPE**	**PRECEDENCE**
COMKODAK	AINPRECE	AINPRECE	800CDP	CDP
RESG613	AINPRECE	AINPRECE	800CDP	800

4.22.3 Precedence simulation using TRAVER

The TRAVER appropriately annotates the precedence between E800/800P and CDP trigger. When the SOC AIN00312 that controls the above functionality is IDLE, a warning message is displayed indicating that the simulated path is different from the call processing path.

The TRAVER TRACE will display the CDP trigger criteria check based on the AIN_800CDP_PRECEDENCE office parameter and AINPRECE Precedence option in the table CUSTSTN. The corresponding tuples will also be displayed. The TRAVER NOTRACE will reflect CallP functionality.

4.22.3.1 Example 1: When the precedence is 800 office wide

The AIN_800CDP_PRECEDENCE office parameter has the value 800 and no precedence option is on the customer group. From an MDC line (DN 6731051), dial access code 9 + Toll free number 8006671000.

Figure 4 Sample TRAVER output for 800 vs CDP trigger precedence (example 1)

```
>traver l 6731051 98006671000 b
TABLE IBNLINES
HOST 01 0 08 08 0 DT STN IBN 6731051 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN TIID
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIG-
COL
COMKODAK PXDK CXDK CUSTFEAT 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N GEN ( LATTR 80 613_P621_80 L613_LATA1_0) ( EA
NILC Y 0)$ $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 0 NILSFC 0 NIL NIL 00 613_P621_80 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_80 ATGO 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE STDPRTCT
P621 ( 1) ( 0) 1
. 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
```

Figure 5 Sample TRAVER output for 800 vs CDP trigger precedence (example 1) (continued)

```
TABLE HNPACONT
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 2 ( 61) ( 1) ( 84) ( 0) 2 $
. SUBTABLE HNPACODE
. 800 800 NSC E800
TABLE TFSSCRN
TFSSCRN TUPLE NOT FOUND
TABLE NSCSCRN
E800 TUPLE NOT FOUND
+++ E800 CALL WILL QUERY SCP DATABASE FOR TRANSLATION INFORMATION
TRAVER NOT AVAILABLE
AIN Info Collected TDP: no subscribed trigger.
Determining 800/CDP trigger precedence. . .
TABLE OFCVAR
AIN_800CDP_PRECEDENCE 800
. . Precedence Option is 800 Office wide
TABLE CUSTSTN
TUPLE NOT FOUND
. . Skipping CDP trigger check
+++ E800 CALL WILL QUERY SCP DATABASE FOR TRANSLATION INFORMATION
TRAVER NOT AVAILABLE
+++ TRAVER: SUCCESSFUL CALL TRACE +++
+++ TRAVER: SUCCESSFUL CALL TRACE +++
```

4.22.3.2 Example 2: when the precedence is CDP office wide

The AIN_800CDP_PRECEDENCE office parameter has the value CDP and no precedence option is on the customer group. From an ISDN MDC line (DN 4771071), dial access code 9 + Toll free number 8004671000 where 9 is the CDP trigger subscribed by the customer group MDC416.

Figure 6 Sample TRAVER output for 800 vs CDP trigger precedence (example 2)

```
>traver l 4771071 98004671000 b
TABLE KSETLINE
ISDN 196 1 DN Y 4771071 MDC416 0 0 416 (SFC) $ BRI UNDEF N $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE KSETFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
MDC416 AIN AIN CDPCODE
```

Figure 7 Sample TRAVER output for 800 vs CDP trigger precedence (example 2) (continued)

```
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
MDC416 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIG-
COL
MDC416 PXDK 416XDK CUSTFEAT 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME 416XDK
416XDK 9 NET N Y 1 Y POTS Y N GEN ( LATTR 410 416_PUB_400 L416_LATA1_400)
( EA NILC Y 0)$ $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
410 IBN NONE NT 0 0 NILSFC 0 NIL NIL 00 416_PUB_400 L416_LATA1_400 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
416_PUB_400 NSCR 416 PUB TSPS N $ $
TABLE RATEAREA
L416_LATA1_400 L416 NIL LATA1 $
TABLE STDPRTCT
PUB ( 1) ( 0) 4
. 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 HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
416 Y 939 1 ( 71) ( 1) ( 4) ( 0) 4 $
. SUBTABLE HNPACODE
. 800 800 NSC 800P
```

Figure 8 Sample TRAVER output for 800 vs CDP trigger precedence (example 2) (end)

```
TABLE TFSSCRN
Table TFSSCRN is not checked for 800P calls
TFSSCRN TUPLE NOT FOUND
TABLE NSCSCRN
800P TUPLE NOT FOUND
+++ 800P CALL WILL QUERY SCP DATABASE FOR TRANSLATION INFORMATION
TRAVER NOT AVAILABLE
AIN Info Collected TDP: no subscribed trigger.
. . Determining 800/CDP trigger precedence
TABLE OFCVAR
AIN_800CDP_PRECEDENCE CDP
. . Precedence Option is CDP Office wide
TABLE CUSTSTN
TUPLE NOT FOUND
. . Performing CDP trigger check
TABLE TRIGGRP
CDPCODE INFOANAL
. CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
. CDPCODE ( DG CDPTRAF)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
. CDPCODE ( DG CDPNET)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
. . TABLE TRIGDIG
. . CDPNET CDPCODE 9 CDPCODE NOTRANS EVENT TCAP R02 SS7 AINPOP DFLT $
. . . TABLE C7GTTYPE
. . . AINPOP ANSI7 6 $
. . . TABLE KSETFEAT
. . . TUPLE NOT FOUND
. . . TABLE C7GTT
. . . AINPOP 4164771071 4164771071 PCSSN (SIMTOOL_RTESET SIMTOOL3 0)
$ SSN
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++
```

4.22.3.3 Example 3: when the precedence is CDP office wide and 800 on customer group

The AIN_800CDP_PRECEDENCE office parameter has the value CDP and the precedence option 800CDP has the value 800 against the customer group. From a RES line (DN 4631021), dial access code 9 + Toll free number

8004671000 where 9 is the CDP trigger subscribed by the customer group RESG416.

Figure 9 Sample TRAVER output for 800 vs CDP trigger precedence (example 3)

```
>traver l 4631021 98004671000 b
TABLE IBNLINES
HOST 01 1 08 14 0 DT STN RES 4631021 403 416_PUB_403 L416_LATA1_400 416 $
TABLE LINEATTR
403 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 416_PUB_403 L416_LATA1_400 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
416_PUB_403 NSCR 416 PUB TSPS Y RESG416 0 0 $ $
TABLE RATEAREA
L416_LATA1_400 L416 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
RESG416 AIN AIN TIID
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
RESG416 0 0 0 RNCOS $
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIG-
COL
RESG416 NXLA CXDK RESGSTAR 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N GEN ( LATTR 410 416_PUB_400 L416_LATA1_400) (
EA NILC Y 0)$ $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
410 IBN NONE NT 0 0 NILSFC 0 NIL NIL 00 416_PUB_400 L416_LATA1_400 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
416_PUB_400 NSCR 416 PUB TSPS N $ $
TABLE RATEAREA
L416_LATA1_400 L416 NIL LATA1 $
TABLE STDPRTCT
PUB ( 1) ( 0) 4
. 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
```

Figure 10 Sample TRAVER output for 800 vs CDP trigger precedence (example 3) (continued)

```
. SUBTABLE HNPACODE
. 800 800 NSC 800P
TABLE TFSSCRN
Table TFSSCRN is not checked for 800P calls
TFSSCRN TUPLE NOT FOUND
TABLE NSCSCRN
800P TUPLE NOT FOUND
+++ 800P CALL WILL QUERY SCP DATABASE FOR TRANSLATION INFORMATION
TRAVER NOT AVAILABLE
AIN Info Collected TDP: no subscribed trigger.
. . Determining 800/CDP trigger precedence
TABLE OFCVAR
AIN_800CDP_PRECEDENCE CDP
. . Precedence Option is CDP Office wide
TABLE CUSTSTN
RESG416 AINPRECE AINPRECE 800CDP 800
. . Precedence Option is 800 on customer group
. . Skipping CDP trigger check
+++ 800P CALL WILL QUERY SCP DATABASE FOR TRANSLATION INFORMATION
TRAVER NOT AVAILABLE
+++ TRAVER: SUCCESSFUL CALL TRACE +++
+++ TRAVER: SUCCESSFUL CALL TRACE +++
```

4.22.3.4 Example 4:

The AIN_800CDP_PRECEDENCE office parameter has the value 800 and the precedence option 800CDP has the value CDP against the customer group. From an EBS line (DN 6731061), dial access code 9 + Toll free number 8006671000 where 9 is the CDP trigger subscribed by the customer group MDC613.

Figure 11 Sample TRAVER output for 800 vs CDP trigger precedence (example 4)

```
>traver l 6731061 98006671000 b
TABLE KSETLINE
HOST 01 0 08 19 1 DN Y 6731061 MDC613 0 0 613 $ MBS
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE KSETFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
MDC613 AIN AIN CDPCODE
```

Figure 12 Sample TRAVER output for 800 vs CDP trigger precedence (example 4) (continued)

```
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
MDC613 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIG-
COL
MDC613 PXDK CXDK CUSTFEAT 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N GEN ( LATTR 80 613_P621_80 L613_LATA1_0) ( EA
NILC Y 0)$ $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 0 NILSFC 0 NIL NIL 00 613_P621_80 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_80 ATGO 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE STDPRTCT
P621 ( 1) ( 0) 1
. 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 HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 2 ( 61) ( 1) ( 84) ( 0) 2 $
. SUBTABLE HNPACODE
. 800 800 NSC E800
```

Figure 13 Sample TRAVER output for 800 vs CDP trigger precedence (example 4) (continued)

```
TABLE TFSSCRN
TFSSCRN TUPLE NOT FOUND
TABLE NSCSCRN
E800 TUPLE NOT FOUND
+++ E800 CALL WILL QUERY SCP DATABASE FOR TRANSLATION INFORMATION
TRAVER NOT AVAILABLE
AIN Info Collected TDP: no subscribed trigger.
Determining 800/CDP trigger precedence. . .
TABLE OFCVAR
AIN_800CDP_PRECEDENCE 800
. . Precedence Option is 800 Office wide
TABLE CUSTSTN
MDC613 AINPRECE AINPRECE 800CDP CDP
. . Precedence Option is CDP on customer group
. . Performing CDP trigger check
TABLE TRIGGRP
CDPCODE INFOANAL
. CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
. CDPCODE ( DG CDPTRAF)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
. N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is NOT applicable to customer group.
. CDPCODE ( DG CDPNET)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
. CDPCODE ( DG CDPMAL)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
. . TABLE TRIGDIG
. . CDPMAL CDPCODE 9 CDPCODE TRANS EVENT TCAP R02 SS7 AINPOP DFLT $
. . . TABLE C7GTTYPE
. . . AINPOP ANSI7 6 $
. . . TABLE KSETFEAT
. . . TUPLE NOT FOUND
. . . TABLE C7GTT
. . . AINPOP 6136731061 6136731061 PCSSN (SIMTOOL_RTESET SIMTOOL3 0) $
SSN
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++
```

4.22.3.5 Example 5: when the SOC AIN00312 is IDLE

The AIN_800CDP_PRECEDENCE office parameter has the value CDP and the precedence option 800CDP has the value CDP against the customer group.

From an MDC line (DN 6731051), dial the access code 9 + Toll free number 8006671000 where 9 is the CDP trigger subscribed by the customer group.

Figure 14 Sample TRAVER output for 800 vs CDP trigger precedence (example 5)

```
>traver l 6731051 98006671000 b
TABLE IBNLINES
HOST 01 0 08 08 0 DT STN IBN 6731051 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN TIID
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIG-
COL
COMKODAK PXDK CXDK CUSTFEAT 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N GEN ( LATTR 80 613_P621_80 L613_LATA1_0) ( EA
NILC Y 0)$ $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 0 NILSFC 0 NIL NIL 00 613_P621_80 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_80 ATGO 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE STDPRTCT
P621 ( 1) ( 0) 1
. 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 HPCPATTN
```

Figure 15 Sample TRAVER output for 800 vs CDP trigger precedence (example 5) (continued)

```
TABLE NSCSCRN
E800 TUPLE NOT FOUND
+++ E800 CALL WILL QUERY SCP DATABASE FOR TRANSLATION INFORMATION
TRAVER NOT AVAILABLE
AIN Info Collected TDP: no subscribed trigger.
. . Determining 800/CDP trigger precedence
. . WARNING: AIN00312 SOC is IDLE, 800 will have default precedence
TABLE OFCVAR
AIN_800CDP_PRECEDENCE CDP
. . Precedence Option is CDP Office wide
TABLE CUSTSTN
COMKODAK AINPRECE AINPRECE 800CDP CDP
. . Precedence Option is CDP on customer group
. . Performing CDP trigger check
Checking AIN CDPCODE Trigger Items as CDPCODE is compatible with current
call
. . TABLE CUSTTIID
. . COMKODAK 4 CDP_NET ON
. . TABLE TRIGITM
. . 4 CDP_NET CDPCODE NOTRANS (DG 9) $ ULK EVENT R02 SS7 AINPOP $
. . TABLE IBNFEAT
. . TUPLE NOT FOUND
. . . TABLE C7GTTYPE
. . . AINPOP ANSI7 6 $
. . . TABLE IBNFEAT
. . . TUPLE NOT FOUND
. . . TABLE C7GTT
. . . AINPOP 6136731051 6136731051 PCSSN (SIMTOOL_RTESET SIMTOOL3 0)
$ SSN
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++
```

Part I Planning and engineering

This part consists of the following:

5 Hardware description

This chapter describes the AIN Service Enablers hardware.

5.1 Hardware requirements

To use AIN Service Enablers, the DMS-100 SSP must use SuperNode SR-50 and higher compute modules or processors. (This is an NA007 PCL requirement.)

In SuperNode offices, AIN supports only the LIU7 for communicating with off-board processors over CCS7 links. LIU7 is installed on either the LPP, FLIS, or SNSE in the LIS (Link Interface Shelf).

5.2 Hardware limitations

The following are hardware limitations:

- MSB7 is not supported. AIN and MSB7 cannot co-exist. Do not activate AIN if MSB7 is in service, as it adversely affects MSB7. See NTP 297-5161-510, *SSP Maintenance Manual* and the *Special Applications Manual for MSB7 to LPP Migration* for the procedure to upgrade an MSB7 office to an LPP office.
- Only the Meridian Digital Centrex Data-Link attendant console is supported for SDS, N11 and encounter TAT triggers. Miniconsoles are not supported.

The AIN SSP does not require a set of announcements for AIN calls. However, the application on the off-board processor may require a set of announcements. Once the operating company determines that its AIN SSP will communicate with a certain AIN SCP application, the set of announcements (if any) required by the SCP service must be provisioned on the SSP. See the *Enhanced DRAM (EDRAM) Engineering Change Memorandum* for provisioning rules for standard and custom announcements for DRAM and EDRAM. Use the following guidelines to provision these announcements on the SSP:

- For recorded announcements, provision the Digital Recorded Announcement Machine (DRAM) NT1X75BA or Enhanced DRAM (EDRAM) NT1X80AA. The older DRAM NT1X75AA is not supported.
- To provide announcements with pronounced digits, do one of the following:
  - Use the digits PROM card NT1X76AG.
  - Provide an EPROM card to record equivalent digital phrases.
  - Provide a RAM card to record equivalent digital phrases.

For BRI agents that are indirectly supported for AIN through PRI looparound trunks, the ISDN sets must be equipped with release 1.53 or later of the MainROM to perform digit collection.

6 SSP engineering

This chapter provides technical specifications under the following headings:

- general
- service standards
- capacity allocation and memory requirements
- overload
- general engineering consideration for AIN Service Enablers
- other hardware to be configured
- realtime impact

6.1 General

This chapter provides technical information for the AIN Service Enablers SSP.

6.2 Service standards

The purpose of this chapter is to state the grade of service (GOS) that customers can expect to experience from an AIN Service Enablers SSP office (that is, quantify the inconvenience suffered by subscribers as a result of call blockage and delay) This information can be derived from call timings and real time measurements and is also dependent on the service quality provided by the off-board processor.

6.3 Capacity allocation and memory requirements

This section describes the impact AIN Service Enablers features have on the processing and memory allocations of an SSP.

6.3.1 Capacity allocation

Capacity allocation is affected by the presence of AIN Essentials and AIN Service Enabler software. Calls made on a switch containing AIN Essentials software have an increase in processing time over calls made on a non-AIN switch. However, no additional impact to processing time results by just adding AIN Service Enablers to a switch already containing AIN Essentials.

Agents supporting AIN Essentials experience a negligible impact to trigger assignment or trigger activation processing time due to the presence of AIN Service Enablers on the switch, regardless of the activation state of AIN Service Enabler software.

Agents using AIN Service Enablers to invoke AIN Essentials equivalent functionality using the GR-1298 messages set (R02), experience a negligible impact on processing time compared to invoking AIN Essentials functionality using the TR-1284 (R01) message set.

AIN Service Enablers is a new product for the DMS family of switches; consequently there is no existing call model that can be used for evaluating processing time impact on an AIN SSP. Due to the numerous possibilities in operating companies designing services using AIN Essentials and AIN Service Enablers functionality, it is not possible to define a representative call model in this time frame.

Another area in which capacity allocation is a consideration is the link peripheral processor (LPP). AIN Service Enablers does not introduce any changes to messaging capacity in the LPP.

6.3.2 Memory requirements

There are three types of memory that should be taken into account for the AIN Service Enablers SSP:

- **Program store** — AIN Service Enablers increases the amount of program store required. The program store value represents the amount of code that is specific to AIN Service Enablers. Changes to AIN Essentials or base code are not included in these program store measurements. However, it must be noted that AIN Essentials software is a prerequisite for AIN Service Enablers software.

  The AIN Service Enablers program store requirement for this release is less than 154.3 kbytes.

- **Data store** — AIN Service Enablers increases the amount of data store required. This storage amount is constant for the load and is not dependent on the number of calls taking place.

  The AIN Service Enablers data store requirement for this release is less than 694.78 kbytes.

  > ***Note:*** The estimated amount for data store excludes any storage requirements for provisioning data, which varies for each central office.

- **Data Structure Store** — This includes data storage that is allocated on a per call basis, usually in the form of extension blocks. This impact depends on usage of AIN Service Enablers. The allocation of this memory is constrained by engineering rules documented in Section 12.2 “Parameters with adequate default values” on page 473 and in Chapter 12: “Datafilling for the general office” on page 455.

6.4 Overload

Automatic code gapping (ACG) is a network management mechanism used in the control of network congestion. If a service control point (SCP) becomes congested with queries, it can request that a service switching point (SSP) slow down or stop sending queries for a desired length of time. Code gapping can be initiated from the SCP in two ways:

- automatically through SCP initiated code control
- manually, through service management system (SMS) originated code control (SOCC)

The manual SOCC method complements the automatic SCP method. When ACG gaps a call, the call is offered to default routing. If default routing does not apply, the call is sent to AIN final treatment.

Overload controls that pertain to an AIN Service Enablers SSP are activated at the system level and no new overload controls for AIN Service Enablers have been introduced.

For information on SS7 messaging overload controls, see the *DMS STP Product Specification.*

For more information on ACG, see Chapter 8: “Network management” on page 287.

6.5 General engineering consideration for AIN Service Enablers

AIN Essentials is a prerequisite and a dependency for AIN Service Enablers.

6.6 Other hardware to be configured

See Chapter 12: “Datafilling for the general office” on page 455.

6.7 Real time impact

Refer to SEB 94-05-005 AIN 0.1 on DMS for real time information and to SEA 94-11-001 ISDN PRI DTCI (MP/SP) Call Timings for real time impact of PRI.

Due to the numerous possibilities in operating companies designing services using AIN Service Enablers functionality, it is not possible to define a representative call model that can be used for evaluating processing time impact on an AIN SSP.

6.7.1 AIN Service Enablers real time impact

> **ATTENTION**
> The information in this sub-section is preliminary. It provides only an estimate of real time impacts. At the time this section was written, the software providing the AIN Service Enablers functionality was not yet available and hence lab call timings were unavailable. This section must be updated to replace the estimates with measured numbers.

Current Nortel Networks call models used for capacity estimation and engineering do not include call scenarios specific to AIN Service Enablers. However, these models are being revised to include a subset of AIN Service Enablers call scenarios which are expected to have at least 1% penetration by the NA010 timeframe. The only AIN Service Enablers call scenarios predicted to fall in this category are those involving AIN Service Enablers' toll-free service (TFS). See Chapter 18: "Toll-free service" on page 629. Historically, TFS has been based on a E800 (TR-533) platform. In this release, AIN TFS has been implemented to support the 800P functionality of the Canadian market. Over time, it is expected that TFS will migrate from TR-533 to AIN. Note that database queries for TFS calls typically occur in end-offices, not at the access tandem switch.

An AIN-based TFS call uses more real time than does E800 or 800P-based calls. Hence, if AIN-based TFS calls start to replace a significant percentage of E800 or 800P calls in any given office there will be an impact on office capacity. This impact was until now restricted to the U.S., AIN-based TFS being implemented for the Canadian market only in this release. AIN-based TFS can co-exist with E800 in a US SSP or with 800P in a Canadian SSP. The check for E800-based TFS or 800P-based TFS versus AIN-based TFS involves a three or six-digit digilation. The cost of a six-digit digilation is expected to be less than 100 microseconds, (0.1 milliseconds) on an SR60 processor.

AIN-based TFS can co-exist with E800 in an SSP. The check for E800-based TFS versus AIN-based TFS involves a three or six-digit digilation. The cost of a six-digit digilation is expected to be less than 100 microseconds (0.1 milliseconds) on an SR60 processor.

In general there is no big change to the real time cost of an AIN Service Enablers call relative to an AIN Service Enablers call in NA007.

Other real-time impacts of AIN Service Enablers are listed here:

- AIN Triggers (O_Called_Party_Busy, O_No_Answer, Specific_Feature_Code) and AIN Events (Network_Busy, T_Busy, T_No_Answer). Real time impact to calls in offices with AIN enabled is as follows:

— For line or trunk originators which encounter busy treatment or no-answer or dial a specific feature code, AIN TDP Analysis is performed. Cost is estimated to be < 0.1% if the originator does not subscribe to the new triggers. Cost is estimated to be < 0.04 ms on an SR70 processor if the new triggers are subscribed to by the originator but the criteria are not met (that is, no AIN query is launched).

— AIN events can only be encountered in certain scenarios where a call has already become an AIN call (that is, a query has been sent to the SCP, and the SCP has armed a dynamic AIN event on the affected call). The new AIN event support does not in general impact the existing call models (cost estimated to be < 0.1%).

- Send to outside resource (AIN Intelligent Peripheral) enhancements. Functionality added here can only be encountered in certain scenarios where a call has already become an AIN call (that is, a query has been sent to the SCP, and the SCP directs the call to local or remote IP). Hence the existing call models are not greatly impacted (cost estimated to be < 0.1 %).
- Various GR1298 compliancy items, notably AIN parameter support for messages sent-to/received-from the SCP. Functionality added here can only be encountered in certain scenarios where a call becomes an AIN call (cost estimated to be < 0.1% for non-AIN calls).
- In release NA009, the real time impact on the residential call model from AIN Service Enablers is estimated to be approximately 0.33%.

7 Message requirements

Messaging over the signaling system number 7 (SS7) network is handled by the LPP and associated application-specific units (ASU) in the DMS-100 switch SSP. AIN Essentials SSP software introduces no change to the capacity of the LPP.

AIN Service Enablers software sends a TCAP message to the LPP through the DMS-100 switch Bus. Prior to NA009, AIN software only processed TCAP UDT messages up to 256 bytes. Starting in NA009, AIN software processes TCAP XUDT messages up to 610 bytes. Messages to the SSP must not exceed 610 bytes in size, otherwise message parameters can be lost and error messages generated.

> ***Note:*** In theory, AIN Service Enablers can process messages up to 1024 bytes. A limit of 610 bytes is applied to minimized processor time usage and memory waste.

AIN Service Enablers software can be flooded by incoming TCAP messages from the SCP. When there are not enough resources to handle incoming messages, the messages are discarded and the call goes to final treatment.

> ***Note 1:*** The Create_Call TCAP message in a query package can be received from the SCP at any time.
>
> ***Note 2:*** When the SSP receives multiple Send_Notification requests for the same call, and each request is received in a separate TCAP transaction, the SSP sends one Termination_Notification message for each request.

8 Engineering considerations for PRI looparounds

This chapter provides the following functionality:

- reasons for using primary rate interface (PRI) looparound trunks
- information for provisioning these PRI looparound trunks

This chapter lists the following items:

- the agents where PRI looparound trunks can be used to gain access to further AIN triggers
- the agents that are not supported by the DMS-100 service switching point (SSP)

Note: Northern Telecom North America primary rate interface (NTNA PRI) is only PRI variant that is supported. All other PRI variants are not supported.

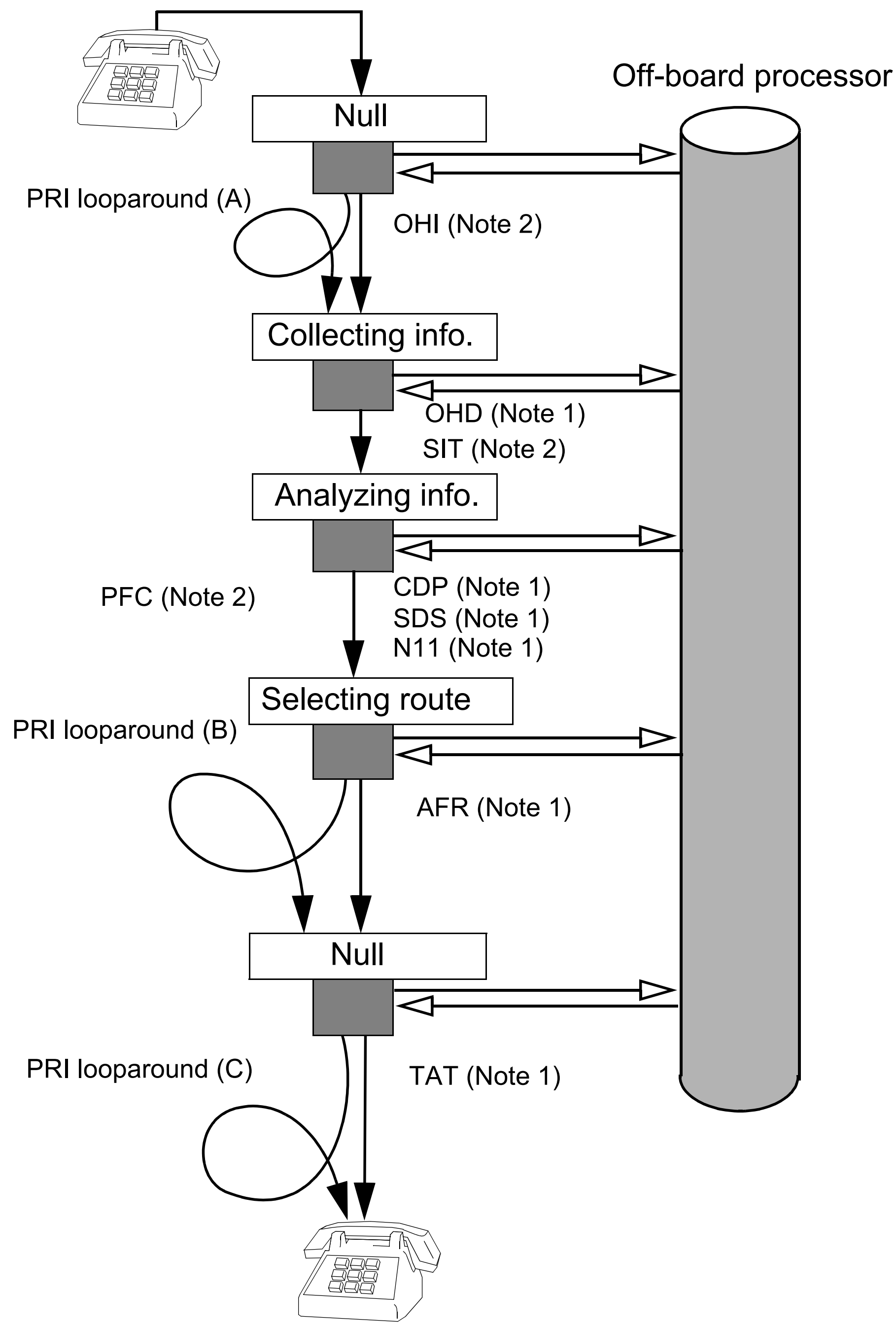
8.1 Why use PRI looparounds?

PRI looparound are a means of decreasing the limitations and restrictions associated with the current release of AIN. By using PRI looparounds, the current release of AIN can provide trigger support for several partially supported AIN agents.

The AIN Service Enablers SSP uses PRI looparounds to enhance its ability to provide AIN services. Points A, B, and C in Figure 16 on page 320 show the points in call (PIC) where a PRI looparound could be used.

Figure 16 shows only the points in call (PIC) that have trigger detection points (TDP) associated with them.

Figure 16 Categories of PRI looparounds



Note 1: accessible from PRI looparounds

Note 2: not accessible from PRI looparounds

PRI looparounds allows indirect support of some agents. This support is accomplished by redirecting calls from the unsupported or partially supported agents to the PRI trunks and looping them back to the DMS-100 SSP. As a result, these calls are given the same triggering potential as a directly supported agent.

Supported agents do not require a PRI looparound for origination triggers. However, both supported and indirectly supported agent calls must be routed over the PRI looparound trunks to encounter a Termination_Attempt trigger when there is at least one indirectly supported agent in the network. Only supported agents can subscribe to the Termination_Attempt trigger.

In addition, it is assumed that for the Termination_Attempt trigger, only one originating agent can be connected to the terminating agent; that is, agents that dial a busy Termination_Attempt trigger subscriber are assumed not to require a PRI trunk. This assumption does not take into account the cases where the multiple termination calls can take place such as hunt groups, ACD, UCD, or Send_To_Resource announcements.

8.1.1 Trigger support for partially supported or unsupported agents

PRI looparounds are used to ensure that non-AIN agents, such as Telex, can encounter the triggers in the originating and the terminating call models. See point A and point B in Figure 16 on page 320. See also Table 238 on page 328.

As of release NA009, each agent is at least partially supported by at least one trigger. There are currently no plans to increase the suppport of the Telex agent. Partially supported agents can still be considered for PRI looparound solution. See Section 8.7 , “Agents where PRI looparound trunks can be used,” on page 327.

8.2 Restrictions and limitations

The PRI looparound cannot provide unsupported AIN agents with access to all triggers. Three triggers, Off-hook_Immediate, Public_Feature_Code, and Shared_Interoffice_Trunk, cannot be accessed by PRI trunks. For further information on triggers, see Chapter 7:“Originating call model triggers” on page 339 and Chapter 9:“Terminating call model triggers” on page 457.

PRI does not carry all the information contained in AIN parameters. The ChargePartyStationType, RedirectingPartyID, and TCM parameters are completely unsupported by PRI. The ChargeNumber, PrimaryCarrier, and RedirectionInformation parameters are supported in a limited manner. See Chapter 6:“Generic SSP procedures” on page 197 for further information on parameters.

For calls originating from attendant consoles going over PRI looparound trunks, subsequent digit collection is not performed once the call has routed over the trunk. Two examples of this restriction are:

- For the Customized_Dialing_Plan (CDP) feature access code (FAC) trigger, if additional digits are to be collected after encountering the refinable translation result selector, the attendant console is not able to enter these digits.
- If an attendant console originates a call over a PRI looparound to AIN and a Send_to_Resource message is returned from the SCP requesting digits to be entered, the announcement is heard but the digits cannot be entered from the keypad of the attendant console.

The integrated services digital network (ISDN) sets that require MainROM must be equipped with release 1.53 or later to perform digit collection across a PRI trunk when no answer supervision is previously sent.

The following are two examples of call scenarios in which release 1.53 or later is required to perform digit collection:

- A call from an ISDN set routes over PRI. The incoming PRI trunk triggers and sends a query to the database. A Send_to_Resource message is received without the AnswerIndicator and requests digit collection.
- A call from an ISDN set routes over PRI. The incoming PRI trunk performs Integrated Business Network (IBN) translation and encounters the FTR selector with NORM, VAR, or FIXED digit collection.

8.3 Required hardware

The use of PRI looparound trunks also requires the use of Digitone Receivers (DTR) to collect digits since the Universal Tone Receiver (UTR) is not supported by PRI.

When a call originates from a PRI trunk and results in a Send_to_Resource response, the SSP plays the designated announcement, and if specified in the response, collect digits. In this case, the DTR must be attached to the PRI trunk to collect the digits. Similarly, when a call originates from an ISUP trunk, a UTR or the GTR (NT6X92EA) must be provisioned to allow for digit collection from the ISUP trunk. The only difference between GTR and UTR is that the GTR is LSSGR/CCITT compliant. Note that the UTR and GTR cannot exist in the same module. In an upgrade situation, the existing UTRs must be removed and replaced by GTRs. See the appropriate peripheral Engineering Change Memorandums for more UTR or GTR information.

The DTR is found in the maintenance trunk module (MTM). It receives digitones and produces a decoded binary output. The Nortel Networks engineering code for the DTR is NT2X48AB. The number of required DTRs is equal to the number of DRAM or EDRAM announcements that are designated to collect digits. For example, if the office is engineered for 10 announcements or channels that are designated to collect digits, then 10 DTRs are required. See the *Building Block Engineering - DRAM Engineeing Change Memorandum* and the *Enhanced DRAM (EDRAM) Engineering Change Memorandum* for DRAM and EDRAM engineering information.

8.4 Provisioning information

Trunk groups assigned with a common language location identification (CLLI) can exist only within the same peripheral module and require their own separate D-channel and perhaps backup D-channel for each trunk group.

A backup D-channel is also useful for DS-1 maintenance on the port. However, the prime channel must be set on a lower-numbered port card.

Unlike ISUP trunks, PRI does not provide the continuity check feature. For more information about how to datafill the extended peripheral module (XPM) for PRI, see NTP 297-2401-360, *Integrated Services Digital Network Primary Rate Interface Translation Guide.*

8.5 PRI looparound calculations

The following sections explain how to calculate the required number of PRI looparound trunks based on the indirectly supported agent traffic and the traffic for the Termination_Attempt trigger.

8.5.1 Assumptions

While performing these calculations, the following is assumed:

- The per agent type traffic is composed of 50% originations and 50% terminations.
- The penetration of 3W CF and 6W CF is assumed negligible for originations from indirectly supported agents.
- All calls originating from an indirectly supported agent invoke an AIN service.
- All agents require only one PRI looparound for all services.
- Any agent may be assigned to any PRI looparound. Termination_Attempt trigger PRI looparounds are different from originating PRI looparounds. This assumption does not take into account any requirement for varied customer group and agent restriction access through separate PRI looparound trunk groups.
- The blocking probability or Grade Of Service is 5% or 0.005.
- Each PRI P-side link facility has a 23B + 1D channel ratio.
- DTCI supports 20 PRI P-side link facilities. DCHs are not required.

8.5.2 Step 1: Calculate the Century Call Seconds for each agent

For each of the agents in Table 238 on page 328, calculate the Century Call Seconds (CCS), using the following formula:

```
Tn = (C * HT * N)/100
```

where:

- C is the number of calls for each agent in calls/hr for busy hour (for originating calls only)
- N is the number of agents (lines or trunks) of this type
- HT is the average holding time for each call in seconds. The default is 180 s.
- Tn is the traffic for each indirectly supported agent type in CCS

Note: The PRI looparound trunk is held for the duration of the call.

8.5.3 Step 2: Calculate the CCS for Termination_Attempt calls

Determine the traffic in CCS for calls encountering the Termination_Attempt trigger using the following formula:

```
Ttat = Tain/2 * X
```

where:

- Tain is the AIN traffic in CCS (all agents)
- X is the percentage of traffic that is encountering the Termination_Attempt trigger. The default is 2% or 0.02 if the percent penetration or planned number of Termination_Attempt trigger service agents is unknown.
- Ttat is the traffic in CCS for calls encountering the Termination_Attempt trigger

Tain is divided by two for terminations only.

Note: As of release NA009, attendant console is the only agent which may be considered for PRI looparound calculations for the encounter Termination_Attempt trigger, and only if Send_To_Resource (STR) functionality is required on these calls.

If STR support is not required for calls that originate on an attendant console, or if the office does not use attendant consoles, no PRI looparound trunks are required for encountering the Termination_Attempt trigger and Ttat is zero.

8.5.4 Step 3: Calculate the total traffic

Calculate the total traffic in CCS requiring PRI looparound trunks. This involves adding the traffic for each agent to the traffic for the Termination_Attempt trigger and multiplying by two for the PRI looparound. Use the following formula:

```
Tt=((T1 + T2 + T3...+ Tn) + Ttat) * 2
```

where Tt is the total traffic requiring PRI looparound trunks

See Table 7 Service Circuit Capacity (Poisson Theory) in the *Simplified Traffic Provisioning Engineerng Change Memorandum* to determine number of circuits required. Look down column under 0.005 and find the CCS that is equal or larger to Tt. Look to the left and the number of circuits or PRI trunks is indicated.

8.5.5 Step 4: Determine the number of required DTCI modules

Use the following formula:

```
Number of DTCI modules = DS1/20 (round up to nearest whole #)
```

where DS1 is the number of PRI facilities calculated by:

```
number of circuits/23 B-channels (round up to nearest whole #)
```

Refer to the *Domestic XPMS and Subscriber Carrier Modules Engineering Change Memorandum* for additional DTCI provisioning information.

8.5.6 Calculation example

The following subsections illustrate how to calculate the required number DTCI modules.

8.5.6.1 Step 1: Calculating the CCS for each agent

The raw data is summarized in Table 237.

Table 237 Raw data for example

Call type	Number of calls (calls/hour)	Average holding time (seconds)	Number of agents or trunks
Cell	20	180	50 trunks
OWT	20	180	50 lines
CCF	5	180	100 lines

Using the formula gives us:

- T1 = (20 * 180 * 50)/100 = 1800 CCS
- T2 = (20 * 180 * 50)/100 = 1800 CCS
- T3 = (5 * 180 * 100)/100 = 900 CCS

8.5.6.2 Step 2: Calculating the CCS for Termination_Attempt calls

The raw data is:

- Tain = 5000 CCS
- X = .02

Using the formula give us: Ttat = 5000/2 * .02 = 50 CCS

8.5.6.3 Step 3: Calculating the total traffic

Using the formula give us:

Tt = ((T1 + T2 + T3) + Ttat) * 2 = (4500 CCS + 50 CCS) * 2 = 9100 CCS

8.5.6.4 Step 4: Determining the number of required DTCI modules

Simplified Traffic Provisioning Engineerng Change Memorandum

From Table 7 of the *Simplified Traffic Provisioning Engineerng Change Memorandum* and using 0.005 blocking, the number of circuits is 281, because 9100 CCS is off the table, in which case you divide Tt by 32.4.

Using the formulas gives us:

- DS1 = 281/23 = 12.21 rounded up to 13
- Number of DTCI modules = 13/20 = .65 rounded up to 1

Therefore, the requirement is for one DTCI that is 65% equipped.

8.6 Agent groups

There are three groups of agent types:

- directly supported by AIN
- unsupported by AIN
- partially supported by the AIN

Directly supported agents can use the AIN application without requiring PRI looparound trunks.

Calls from unsupported agents do not trigger at the AIN trigger detection points. Therefore, by redirecting the calls from the unsupported agents to the PRI trunks (which are supported) and looping them back to the DMS SSP, these calls are given the same triggering potential as a directly supported agent, except for Off-hook_Immediate (OHI), Public_Feature_Code (PFC), and Shared_Interoffice_Trunk (SIT). A PRI looparound trunk may be used provided the trigger access from the agent over the PRI looparound is supported on the DMS SSP.

Partially supported agents can be fully supported for some triggers, unsupported for orther triggers, and partially supported for still other triggers. A PRI looparound trunk may be used for the partially supported and unsupported triggers, provided that:

- missing functionality for the partially supported trigger is accessible through the PRI looparound trunk
- access to the trigger is supported through the PRI looparound trunk

In the termination phases of a call, some calls are redirected to the PRI trunks and others are directly supported by the Termination_Attempt trigger.

For a view of trigger support for each type of agent, see Chapter 4: “Agent support” on page 319.

As of release NA009, there are no plans to increase the level of support for agents that are currently unsupported. Partially supported agent have at least one trigger that is partially supported. Table 238 on page 328 provides a list of partially supported agents that can use a PRI looparound trunk to access certain triggers which are not directly supported.

8.7 Agents where PRI looparound trunks can be used

This section lists agents that are partially supported by AIN, and that can gain access to further AIN triggers through the PRI looparounds, if necessary. However, the use of PRI looparounds is not recommended if it can be avoided. See Table 238 on page 328. In Table 238 on page 328, supported triggers do not require PRI looparound trunks.

Table 238 AIN indirectly supported agents through PRI looparounds

Agents	Line class code and trunk group type	Off-hook_Delay	Customized_Dialing_Plan	Specific_Digit_String	N11	Automatic_Flexible_Routing	Encounter Termination_Attempt
8-Party flat rate	8FR	PL	N/A	PL	PL	PL	S
10-Party flat rate	10FR	PL	N/A	PL	PL	PL	S
POTS Coin	CCF CDF CSP ZMD ZMZPA	PL	N/A	S	S	S Note 1	S
POTS WATS	2WW EOW ETW INW OWT	PL	N/A	S	S	S Note 1	S
Attendant console	Line Other	PL	PL	P Note 2	P Note 2	PL	P Note 2
OutgoingCAMA	OC	N/A	N/A	S	S	PL	S

N/A— not applicable
P— partially supported
PL— supported through primary rate interface (PRI) looparound trunks
S— supported

Note 1: Group based subscription is and individual subscriptions are not applicable.

Note 2: Send_To_Resource is not supported on calls from an attendant console.

8.8 Agents not supported by AIN

Table 239 lists the trunks agents that are not supported by AIN. There are currently no plans to increase the level of support for these agents.

Table 239 Trunk agents not supported by AIN

Agent type	Agent name	Agent purpose
LPBK	ISDN Loop Back	Test trunk
RONI	Remote Operator Number Indentification	Operator intervention for ANI digits
NFA	NFA	DMS to IP communications
X75	X.75 Protocol	Trunk to packet handler
TOPSARU	TOPS Automatic Response Unit	Used for directory assistance
TOPSVL	TOPS Voice Link	Interface to Voice Service Node
LOOPA	Loop Around	Test trunk
SOCKT	Transmission Test Circuit	Test trunk
MAINT	Maintenance Trunk	Test trunk
ROTL	Remote Office Test Link	Test trunk
TDDO	Two State Direct Dial Overseas	Tandem trunking
TTL2	Tone Test Line	Test trunk
T101	101	Test trunk
T105	105	Test trunk
DS0	Digital Signaling	SS7-STP link
AI	Automatic Intercept	Route to announcement system
AN	Automatic Number Announcement	Plays back ANI information
DA	Directory Assistance	Operator services
ES	Emergency Services	911 outgoing from end office
IR	Intercept/Repair	611 and service bureau
NU	Nail Up	Permanent connections
OS	Operator Service	Operator services
TD	Test Desk	Repair service testing

Table 239 Trunk agents not supported by AIN (Continued)

Agent type	Agent name	Agent purpose
TL	Transmission Link	SS7 signaling link
TWX	Telex	Telex services

Part II Provisioning

This part includes the following chapters:

9 Provisioning overview

> **CAUTION**
> **Non specific examples**
> This part of the document provides instructions for provisioning the service switching point (SSP) for advanced intelligent network (AIN) services. The instructions provided are related to sample call scenarios. Sample call scenarios are not specific instructions because they are not applicable in all cases. The intention is to provide a wide range of sample calls that illustrate trigger activation, and the resulting responses. These sample calls should only be used as a guide to provisioning.

9.1 Provisioning

Provisioning provides datafill examples organized by trigger and response type, for the AIN Service Enablers SSP product. Provisioning provides datafill examples that are required to set-up post-response translations. Do not use this information when not completely familiar with the AIN Service Enablers SSP product.

The information in this part of the document assumes that the reader is familiar with the following types of knowledge and experience:

- AIN Service Enablers SSP functionality, namely, knowledge of basic AIN Service Enablers provisioning and AIN Service Enablers call models (both the trigger-processing and response-processing aspects)
- various DMS utilities, such as the table editor, SERVORD, and the TRAVER tool
- basic DMS-100 switch translations knowledge, including the following types of service:
  - plain ordinary telephone service (POTS) translation
  - Meridian digital centrex (MDC) translation
  - ISDN routing characteristic translation tables
  - signaling system number 7 (SS7) translations
  - equal access translation

9.2 Structure of provisioning

This section is divided into the following main sections:

- provisioning overview
- software optionality control
- datafilling for the general office
- common triggering datafill
- trigger subscription
- using SERVORD
- trigger administration
- datafilling for triggers
- datafilling for responses
- provisioning of multiple triggers
- provisioning for post-response translations

9.2.1 Provisioning overview

This chapter defines key terminology needed to provision new or enhanced tables for AIN. It also provides general datafilling information.

9.2.2 Software optionality control

Chapter 11: "Software optionality control" on page 401 describes the datafill required to set up AIN Service Enablers Software Optionality Control, which controls how AIN software is activated.

9.2.3 Datafilling for the general office

Chapter 12: "Datafilling for the general office" on page 455 describes the datafilling requirements for setting up the AIN Service Enablers SSP. The chapter includes the following information:

- datafilling table OFCENG for AIN Service Enablers SSP software
- datafilling for Transaction Capabilities Application Part (TCAP)
- datafilling for treatment

9.2.4 Common triggering datafill

Chapter 13: "SS7 datafill" on page 487 describes the datafill required to set up SS7 processing.

9.2.5 Trigger subscription

Chapter 14: "Trigger group provisioning interface" on page 493 and Chapter 15: "Trigger item provisioning interface" on page 481 discuss some aspects of trigger subscription such as:

- trigger definition and subscription
- trigger processing precedence
- DISA AIN subscription

9.2.6 Using SERVORD

Chapter 16: "SERVORD guidelines" on page 551 describes how to use the SERVORD utility to add the AIN and AINDN options to lines.

9.2.7 Trigger administration

Chapter 14: "Trigger group provisioning interface" on page 493 and Chapter 15: "Trigger item provisioning interface" on page 481 describe several aspects of trigger administration such as:

- call type criterion
- administering the trigger activation states
- datafilling for default routing

9.2.8 Datafilling for triggers

Chapter 17: "Provisioning assumptions" on page 575 is a guide to the trigger provisioning chapters that follow it.

Chapter 13: “SS7 datafill” on page 487 describes the datafilling requirements common to all triggers, such as:

- datafilling required for SS7 tables
- datafilling for the call type criterion
- SERVORD guidelines for assigning AIN or AINDN to a line

Chapter 18: “Off-Hook_Immediate trigger” on page 577 through Chapter 37: “T_No_Answer trigger” on page 915 describe the datafilling requirements for each of the trigger types.

9.2.9 Datafilling for responses

Chapter 40: “Datafilling for responses” on page 955, is a guide to the response-provisioning chapters that follow it. Chapter 41: “Analyze_Route response” on page 957 through Chapter 49: “Cancel_Resource response” on page 1059 describe the datafilling requirements for each of the seven response types.

9.2.10 Provisioning of multiple triggers

Chapter 14: “Trigger group provisioning interface” on page 493 is a guide to defining and subscribing to a multiple-trigger group.

9.2.11 Datafilling for post-response translations

Chapter 52: “Provisioning for post-response translations” on page 1101 is a guide to the chapters that follow it. Chapter 1: “Overview of AIN response translations” on page 37 through Chapter 52: “Options for offices supporting only 7-digit dialing for home numbering plan” on page 1049 describe the datafilling required to provision post-response translations.

9.3 Accessing AIN SSP services

See Chapter 4: “Agent support” on page 127.

9.4 MSGSET field

To identify an AIN Service Enablers trigger versus an AIN Essentials trigger, the value of the MSGSET field in tables TRIGDIG and TRIGINFO includes “R02” as shown in Table 253 “Fields from table TRIGDIG” on page 369 and Table 256 “Fields from table TRIGINFO” on page 382.

9.5 Overview of tables by function

This section provides an overview of AIN and AIN-related tables by type:

- trigger definition tables
- trigger subscription tables
- access code tables

- automatic flexible routing (AFR) tables
- service switching point (SSP) provisioning tables
- message routing tables
- call recording tables
- treatment control tables
- announcement tables

Note: Any tables mentioned in this document that are not listed in this section are existing DMS tables used by AIN Service Enablers.

9.5.1 Trigger definition tables

Trigger definition tables for the trigger group provisioning interface follow:

- TRGSIESC
- TRIGDIG
- TRIGESC
- TRIGGRP
- TRIGINFO
- PODPATTR

Trigger definition tables for the trigger item provisioning interface follow:

- TRIGITM
- TIESCDIG
- TRIGINFO

9.5.2 Trigger subscription tables

Trigger subscription tables follow:

- LENFEAT
- IBNFEAT
- KSETFEAT
- OFCVAR
- OFCTIID
- CUSTSTN
- DNFEAT
- TRKAIN

- TFSSCRN
- CUSTIID

9.5.3 Access code tables

Access code tables follow:

- IBNXLA
- XLANAME

9.5.4 Automatic flexible routing tables

Automatic flexible routing (AFR) tables follow:

- OFRT, OFR2, OFR3, OFR4
- HPNACONT SUB RTEREF
- IBNRTE, IBNRT2, IBNRT3, IBNRT4
- FNPACONT SUB RTEREF

9.5.5 Service switching point (SSP) provisioning tables

SSP provisioning is performed with the following parameters of table OFCENG:

- AIN_MAX_SERIAL_TRIGGERS
- AIN_NUM_EXT_BLKS
- AIN_NUM_PROCESSING_EXT_BLKS
- AIN_T1_TIMER
- AIN_TIMEOUT_TIMER
- TRIGDIG_NUM_DGLTR_POOLS

9.5.6 Service specific provisioning tables

Service specific provisioning is performed using the following tables:

- MSRTAB
- TFSSCRN

9.5.7 Message routing tables

The message routing tables are as follows

- C7GTTYPE
- C7GTT
- C7RTESET
- C7NETSSN
- C7LOCSSN

9.5.8 Call recording tables

The call recording tables are as follows:

- AMAOPTS
- BCCODES
- CUSTSMDR

9.5.9 Treatment control tables

The treatment control tables are as follows:

- TMTCNTL
- TMTMAP

9.5.10 Intelligent peripheral interface tables

Table LTDATA interfaces intelligent peripherals with the AIN product.

9.5.11 Announcements tables

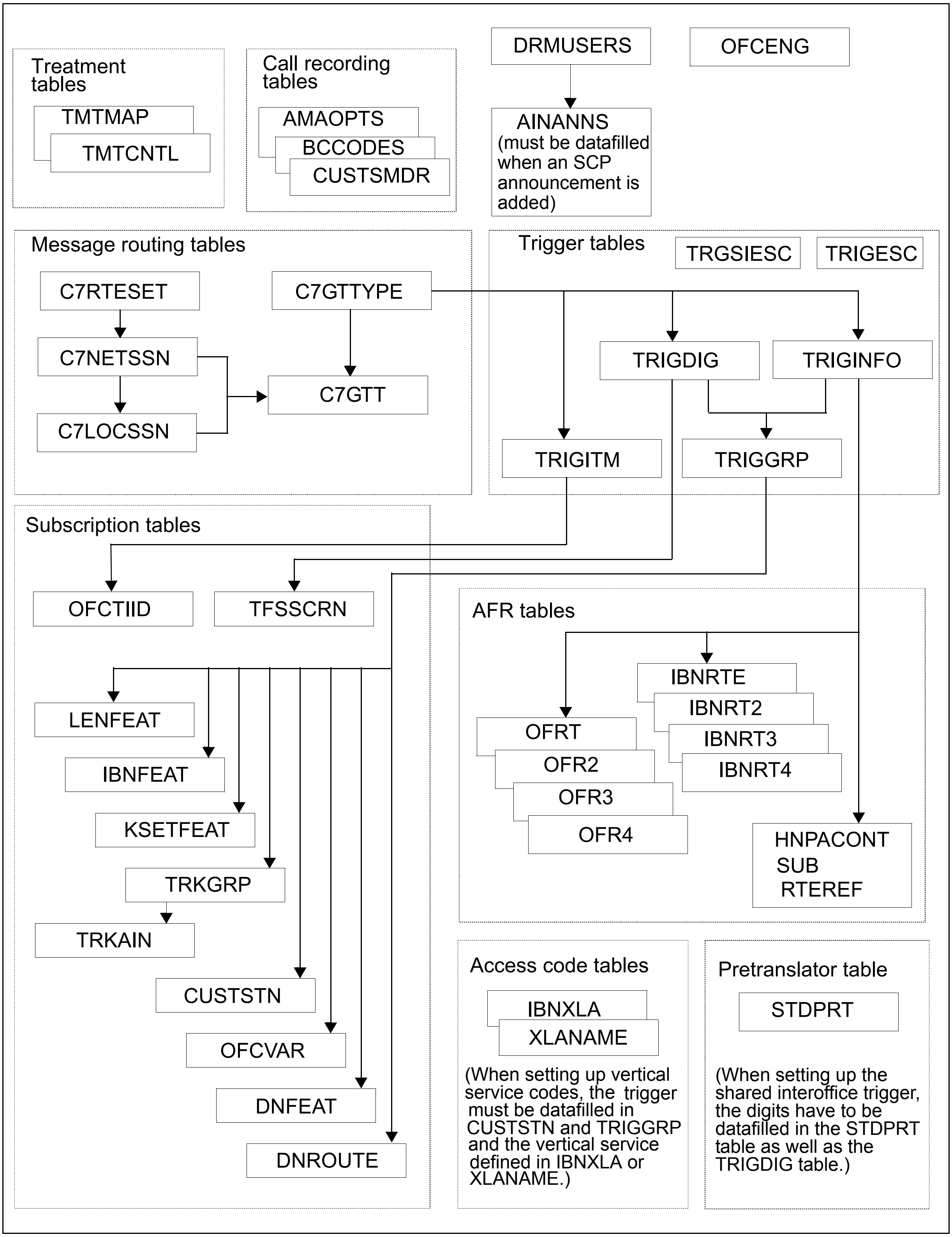
The announcement table is AINANNS.

9.6 Datafilling hierarchy

Figure 17 on page 342 illustrates the order of datafill as well as table indexing dependencies (as indicated by the arrows). For example, table TRIGDIG must be datafilled before table TRIGGRP.

> ***Note:*** A (*) symbol next to a table in Figure 98 indicates that the table is only required for the trigger item provisioning interface.

Figure 17 Datafill hierarchy and indexing



9.7 How to provision AIN triggers, responses, and post-response translations

Read the chapters in this part of the Service Implementation Guide to become familiar with the various assumptions that underlie this document.

This document can be used to learn how to datafill an SSP to make one trigger–one response for the various AIN Service Enablers calls described in this document. First, decide on the triggering type encountered in the call. Then, perform the following steps:

- Ensure that the Software Optionality Control has been set up correctly as described in Chapter 10: “Data schema” on page 319.
- Ensure that the general office datafill has been set up correctly as described in Chapter 12: “Datafilling for the general office” on page 455 on page 455.
- Read the following chapters: Chapter 13: “SS7 datafill” on page 487, Chapter 14: “Trigger group provisioning interface” on page 493 and Chapter 15: “Trigger item provisioning interface” on page 481 and perform any initial datafill required such as establishing the SS7 interface.
- Read the common triggering datafill in Chapter 17: “Provisioning assumptions” on page 575 to learn how to set up the datafilling that is applicable to your requirements. Then, proceed to the corresponding trigger datafilling chapter for the trigger type involved in the call. Choose any of the examples described in that chapter and follow the instructions to set up the datafill.
- Go to Chapter 40: “Datafilling for responses” on page 955. Determine the valid response types for the query message and choose one response. Go to the corresponding response datafilling chapter for the responses type. If datafill is required, choose any of the examples described in the chapter and follow the instructions to set up the datafill.
- Make the real AIN call.
- Ensure that the datafill required for post-response translation processing has been set-up as described in Chapter 52: “Provisioning for post-response translations” on page 1101.

Note: No datafill is required for events.

10 Data schema

This chapter describes the tables that support AIN Service Enablers.

Note 1: In AIN Service Enablers, trigger Specific_Digit_String (SDS) is equivalent to trigger PODP in AIN Essentials. Since both triggers share the same provisioning, TRAVER and other provisioning tools use the term PODP to refer to the AIN Service Enablers' SDS trigger.

Note 2: In AIN Service Enablers, trigger Public_Feature_Code (PFC) is equivalent to trigger PODPFeat in AIN Essentials. Since both triggers share the same provisioning, TRAVER and other provisioning tools use the term PODPFeat to refer to the AIN Service Enablers' PFC trigger.

10.1 Table AINPRESC

The table AINPRESC stores the information about the AIN triggers to be escaped and the digit patterns associated with the triggers.

10.1.1 Datafill sequence and implications

Datafill the following tables before table AINPRI.

- AINPRESC
- TRIGITM

10.1.2 Table size

0 to 1024 tuples. Memory is automatically allocated using SEGSTOR.

10.1.3 Datafill

The following table lists datafill specific to AIN for table AINPRI.

Table 240 Fields from table AINPRESC

Field name	Subfield	Entry	Explanation and action
ESCKEY		Upto 8 alphanumeric characters	Escape Key Name. Enter upto 8 alphanumeric characters

Table 240 Fields from table AINPRESC

Field name	Subfield	Entry	Explanation and action
OPTIONS	Is an area with a subfield OPTION. Has 4 sets of refinements with the selector being the aforementioned subfield OPTION. The 4 refinements are: 1) oper_serv_option 2) specarr_option 3) interntl_option 4) one_plus_option	Subfield OPTION can take one of these four values: SPECARR,ONEPLUS,INTERNTL, OPERSERV. The remaining values are dependent on the values taken by OPTION Possible values for **SPECARR**: Vector of {CAC,CACNXX,CAC0M,CAC00M,CAC0NXX,CAC0NPA,CAC1NXX,CAC1NPA,CAC011P,CAC01P} **ONE_PLUS**: Vector of {1NXX,1NPA,CAC1NXX,CAC1NPA} **INTERNTL**: Vector of {011P,01P,CAC011P,CAC01P} **OPER_SERV**: Vector of {0M,00M,CAC0M,CAC00M,0P,01P,CAC0P,CAC01P}	OPTION subfield can take 4 values: SPECARR,ONEPLUS,INTERNTL, OPERSERV Depending on the value of OPTION the values taken will change, even though the format is the same, i.e. all are vectors

10.1.4 Datafill example

The following sample shows sample datafill for table AINPRESC:

Figure 18 Sample datafill for table AINPRESC

```
  TABLE: AINPRESC
>add
ESCKEY:
>ZEROESC
OPTION:
>asdf
 ***  ERROR  ***
ASDF
|
TYPE OF OPTION IS AINPRESC_OPTION
OPTION:
>asdf
 ***  ERROR  ***
ASDF
|
TYPE OF OPTION IS AINPRESC_OPTION
TYPE IS AINPRESC_OPTION {OPERSERV,SPECARR, INETRNTL, ONEPLUS}
OPTION:
>OPERSERV
OPER_SERV_OPT:
>asdf
 ***  ERROR  ***
ASDF
|
TYPE OF OPER_SERV_OPT IS OPER_SERV_OPTION
OPER_SERV_OPT:
>asdf
 ***  ERROR  ***
ASDF
|
TYPE OF OPER_SERV_OPT IS OPER_SERV_OPTION
TYPE IS OPER_SERV_OPTION {0,00,CAC0,CAC00,0P,01P,CAC0P,CAC01P}
OPER_SERV_OPT:
>0
OPER_SERV_OPT:
>$
TUPLE TO BE ADDED:
ZEROESC OPERSERV (0) $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>y
TUPLE ADDED
JOURNAL FILE INACTIVE
```

10.1.5 Supplementary information

Not applicable

10.2 Table AINPRI

Table ANIPRI supports subscription to an AIN PRIB trigger on a PRI B-channel.

10.2.1 Datafill sequence and implications

Datafill the following tables before table AINPRI.

- LTMAP
- TRKMEM
- TRIGITM

10.2.2 Table size

0 to 64 000 tuples

10.2.3 Datafill

The following table lists datafill specific to AIN for table AINPRI.

Table 241 Fields from table AINPRI

Field name	Subfield	Entry	Explanation and action
PRIMEMS		see subfields	PRI members. This field is the key to table AINPRI and consists of subfields LTGRP, LTNUM, FROMCHNL, and TOCHNL
	LTGRP	alphanumeric (1 to 8 characters)	Logical terminal group number. Identifies the logical terminal group of a logical terminal. Enter the logical terminal group name defined in table LTGRP.
	LTNUM	1 to 1022	Logical terminal number in a group. Enter an integer between 1 and 1022 that identifies the logical terminal number of a logical terminal.
	FROMCHNL	0 to 9999	From channel. Enter an integer between 0 and 9999 that identifies the beginning of the range of B-channels in a logical terminal.
	TOCHNL	0 to 9999	To channel. Enter an integer between 0 and 9999 that identifies the end of the range of B-channels in a logical terminal
TIIDLIST		see subfields	Trigger item identification list. Specifies the trigger item datafilled in table TRIGITM. Consists of subfields TIID and TRIGACT.
	TIID	see subfields	Trigger item identifier. Consists of subfields TDP and TINAME.
	TDP	3	Trigger detection point. Enter 3 for the Info_Collected TDP.
	TINAME	alphanumeric (1 to 8 characters)	Trigger item name. Datafill this field to identify the trigger item as defined in table TRIGITM.

Table 241 Fields from table AINPRI

Field name	Subfield	Entry	Explanation and action
	TRIGACT	ON, OFF	Trigger active. Determines the state of the TDP identified in field TIID. Enter ON to activate the trigger item in field TIID. Enter OFF to deactivate the trigger item identified in field TIID.

10.2.4 Datafill example

The following sample shows sample datafill for table AINPRI

Figure 19 MAP display example for table AINPRI

```
                PRIMEMS          TIIDLIST
------------------------------------------
    ISDN  564    1    3 ( 3 PRIB_SIM  ON)$
```

10.2.5 Supplementary information

Not applicable

10.3 Table CUSTTIID

Table CUSTTIID allows trigger items to be assigned on a customer group basis. A tuple in table CUSTTIID is composed of a customer group name (taken from table CUSTENG), a trigger item identifier (taken from table TRIGITM) and an activation field. Subscription to a trigger item on a customer group basis is only applicable when the reserved trigger group “TIID” is assigned to the corresponding customer group in table CUSTSTN.

> ***Note:*** The PFC Office Administration Feature (A59022533) requires datafill in Table CUSTTIID. This table needs to be provisioned for the assignment of triggers specific feature code (SFC) and public feature code (PFC) on a customer group.

10.3.1 Field Information

The status of the fields in table CUSTTIID is shown in Table 242.

Table 242 Fields from table CUSTTIID

Field name	Range of values	Default values
CUSTNAME	list of 1 to 16 characters	
TIID	multiple with TDP {1,3, 4, 17, 19, 20, 30, 32, 33} TINAME vector of up to 8 alphanumeric chars.	
TRIGACT	multiple with TRIGACT {ON, OFF}	

10.3.2 Description of fields

The tuples in CUSTTIID consists of the following data fields:

10.3.2.1 CUSTNAME

Customer group name as defined in table CUSTENG.

10.3.2.2 TIID

Trigger Item Identifier. A two part key as defined in table TRIGITM:

- TDP (part 1)
  <standard 2 digit number representing a trigger detection point (TDP)>
- TINAME (part 2)
  <8-character alphanumeric string>

10.3.2.3 TRIGACT

A subscription field that supports the values “ON” or “OFF”.

- ON
  indicates that the trigger item subscription identified by the TIID is activated.
- OFF
  indicates that the trigger item subscription is not activated.

10.3.3 Datafill Sequence

Datafill subscription table CUSTTIID after tables TRIGITM and CUSTENG.

10.3.4 Examples

See Table 243 for an example of the datafill for the CUSTTIID table.

Table 243 Sample datafill for table CUSTTIID

Custname	TIID		TRIGACT
	TDP	TINAME	
COMKODAK	19	OCPBTRIG	ON
COMKODAK	33	ONOATRIG	ON
COMKODAK	04	CDPTRIG1	OFF
COMKODAK2	17	AFRTRIG4	ON

10.4 Table DNFEAT

Table DNFEAT stores the AIN and AINDN options. The AIN option applies originating triggers to DISA DNs. The AINDN option applies terminating triggers to DNs. Operating company personnel can datafill these options through SERVORD or table control.

10.4.1 Datafill sequence and implications

Datafill the following tables before table DNFEAT:

- DN definition tables
  - LENLINES
  - IBNLINES
  - KSETLINE
  - LENFEAT (for SDNs)
  - IBNFEAT (for SDNs)
  - DNROUTE (AIN VDNs and DISA DNs)
- one of the following trigger definition tables
  - TRIGGRP
  - TRIGITM

10.4.2 Table size

The system dynamically allocates table size from 0 to 128 000 tuples (SOC dependent). Depending on the distribution of DNs in table DNFEAT, the table can reach its maximum capacity before attaining the limit. The DMSMON DBLOCKS tool can monitor the size of this table.

> ***Note:*** To provision more than 32 767 tuples (up to maximum of 128 000 tuples), the SOC option LOC00256 must be set to ON.

10.4.3 Datafill

The following table lists datafill specific to AIN for table DNFEAT. Only those fields that apply directly to AIN are shown. For a description of the other fields, refer to the data schema section of the *Translations Guide.*

Table 244 Fields from table DNFEAT

Field name	Subfield	Entry	Explanation and action
OPTLIST		see subfield	Options list. This field consists of subfield DNOPT.

Table 244 Fields from table DNFEAT (Continued)

Field name	Subfield	Entry	Explanation and action
	DNOPT	AIN, AINDN	Directory number options. Enter AIN to assign an originating trigger to a DISA DN. Datafill refinement AINGRP. Enter AINDN to assign a terminating trigger to a DN. Datafill refinement AINGRP.
	AINGRP	alphanumeric character string, or TIID	Advanced intelligent network group. Enter the trigger group name from table TRIGGRP to activate the trigger group provisioning interface. Enter TIID to activate the trigger item provisioning interface. Datafill subfield TIID.
	TIID	see subfields	Trigger item identification. This field consists of subfields TDP, TINAME, and TRIGACT.
	TDP	3, 20, 22, 30, or 32	Trigger detection point. Enter the number that represents the desired TDP. Enter 3 for the Info_Collected TDP. Enter 20 for the Termination_Attempt TDP. Enter 22 for the Term_Resource_Available TDP. Enter 30 for the T_Busy TDP. Enter 32 for the T_No_Answer TDP.
	TINAME	alphanumeric (1 to 8 characters)	Trigger item name. Datafill this field to identify the trigger item as defined in table TRIGITM.
	TRIGACT	ON, OFF	Trigger active. Determines the state of the TDP identified in subfield TIID. Enter ON to activate the trigger item in subfield TIID. Enter OFF to deactivate the trigger item identified in subfield TIID.

10.4.4 Datafill example

The following sample shows subscription to both AIN and AINDN options. The first DN is subscribed to one termination attempt trigger using the trigger item provisioning model. This trigger item is turned OFF. The second DN is subscribed to the AINDN option using the trigger group provisioning model (TERMATT trigger group). The last two DNs are subscribed to the AIN option, the first using trigger items, and the second a trigger group.

Figure 20 MAP display example for table DNFEAT

```
AREACODE OFCCODE   STNCODE                                   OPTLIST
--------------------------------------------------------------------
    613     621       1234         (AINDN TIID ((20 TATT1 OFF) $)) $
    613     621       4567                         (AINDN TERMATT) $
    613     621       5555            (AIN TIID ((3 OHD1 ON) $)) $ $
    613     621       7777                          (AIN DISA_GRP) $
```

10.4.5 Supplementary information

Not applicable

10.5 Table LTDATA

Table LTDATA stores service related data associated with the logical terminal identifier (LTID), field LTDKEY, the key to table LTDATA. Field LTDKEY consists of three parts: the logical terminal group (subfield LTGRP), logical terminal number (subfield LTNUM), and logical terminal data type (subfield DATATYPE).

10.5.1 Datafill sequence and implications

Datafill the following tables before table LTDATA

- LTGRP
- LTDEF
- LSPINFO

10.5.2 Table size

0 to 65 408 tuples

10.5.3 Datafill

The following table shows the datafill specific to AIN for table LTDATA. Only those fields that apply directly to AIN are shown. For a description of the other fields, refer to the data schema section of the *Translations Guide*.

Table 245 Fields from table LTDATA

Field name	Subfield	Entry	Explanation and action
LTDRSLT		see subfield	Line terminal result. This field consists of field DATATYPE.
	DATATYPE	SERV	Data type. Enter SERV for AIN services. Datafill subfields AUDTRMT, CGNREQD, CGNDELV, CDNDELV, and SERVICE_OPTION.
	SERVICE_OPTION	see subfield	Service option. Consists of subfield OPTION.
	OPTION	AIN_IPI_STR	Option. Enter AIN_IPI_STR to allow a send-to-resource connection to terminate on the logical terminal indicated in field LTDKEY.

10.5.4 Datafill example

The following sample shows sample datafill for table LTDATA.

Figure 21 MAP display example for table LTDATA

```
          LTDKEY
                                                         LTDRSLT
------------------------------------------------------------------
    ISDN  597 SERV
SERV N N ALWAYS ALWAYS (AIN_IPI_STR) $
```

10.5.5 Supplementary information

During an ONP, the option AIN_IPI_STR is added to the tuples when the corresponding PRI link is used for the IP interface.

In NA007, all IP connections use PRI NI-2 protocol variant, and NI-2 variant is used only for IP connections. During NA007 to NA009 ONP, this fact is used as the criterion to decide whether or not to assign AIN_IPI_STR option to a tuple.

This dump and restore strategy requires an LTDATA tuple to exist for each PRI link to the IP in NA007. When this is not the case, tuple(s) with default values should be added for these PRI links before the dump and restore.

10.6 Table MSRTAB

The system uses table MSRTAB as a database to store valid message storage and retrieval system identification (MSRID). The system uses table MSRTAB to validate MSRIDs that it receives in an update message.

10.6.1 Datafill sequence and implications

Not applicable

10.6.2 Table size

The system dynamically allocates table size from 0 to 16 tuples.

10.6.3 Datafill

The following table lists datafill specific to AIN for table MSRTAB.

Table 246 Fields from table MSRTAB

Field name	Subfield	Entry	Explanation and action
MSRID		numeric (10 digits)	Message storage and retrieval system identification. Enter the 10-digit value for the MSRID in this field.
OPTIONS		see subfields	Options. This field specifies options for the MSRID identified in field MSRID.It consists of subfield MRSIDOPT.
	MSRIDOPT	BILLNUM	Billing number. Datafill subfields BILLNUM and BILLNUM_PREF.
	BILLNUM	TABLE OF 10 {0 TO 9}	
	BILLNUM_PREF	N, Y	

10.6.4 Datafill example

The following sample shows sample datafill for table MSRTAB.

Figure 22 MAP display example for table MSRTAB

```
          MSRID                 OPTIONS
----------------------------------------
     6137216050                       $
     8197228907                       $
```

10.6.5 Supplementary information

Not applicable

10.7 Table OFCTIID

The OFCTIID table administers the subscription links to the office wide trigger items that are defined in the TRIGITM table.

10.7.1 Datafill sequence and implications

Datafill table TRIGITM before table OFCTIID.

10.7.2 Table size

0 to 16 tuples

10.7.3 Datafill

The following table lists datafill specific to AIN in table OFCTIID.

Table 247 Fields from table OFCTIID

Field name	Subfield	Entry	Explanation and action
KEY		see subfields	Key. This field is the key to the table. It consists of subfield TIKEY.
	TIKEY	see subfields	Trigger item key. Consists of subfields TDP and TINAME.
	TDP	4 or 17	Trigger detection point. Enter the number that represents the desired TDP. Enter 4 for the Info_Analyzed TDP. Enter 17 for the Network_Busy TDP.
	TINAME	alphanumeric (1 to 8 characters)	Trigger item name. Datafill this field to identify the trigger item as defined in table TRIGITM.
TRIGACT		ON, OFF	Trigger active. Determines the state of the TDP identified in field KEY. Enter ON to activate the trigger item identified in field KEY. Enter OFF to deactivate the trigger item identified in field KEY.

10.7.4 Datafill example

The following sample shows sample datafill for table OFCTIID.

Figure 23 MAP display example for table OFCTIID

```
        KEY TRIGACT
-------------------
 4 SPECARR       ON
 4 S213254D      ON
 4 SBK1000D      ON
 4 SBK2000D     OFF
 4 SBK5001D      ON
>
```

10.7.5 Supplementary information

Not applicable

10.8 Table REASONS

Table RESONS stores feature and call progress indication messages. AIN uses table REASONS to map reasons ‘O’ and ‘P’ that indicate the reason for an absence of callingPartyName and callingAddress, to the text that is displayed on ISDN and EBS/MDC terminals. The following reason tags are used to datafill displayed text strings:

- AINRSNNAMEP
- AINRSNNAMEO
- AINRSNNUMBERP
- AINRSNNUMBERO

Table 248 provides datafill for reason IDs that are specific to AIN.

Table 248 Fields for table REASONS

Field name	Entry	Explanation
REASONSET	DEFAULTSET	One of the reason sets that is used.
REASONID	AINRSNNAMEP, AINRSNNAMEO, AINRSNNUMBERP, AINRSNNUMBERO	These are the reason ids that is mapped to the reason ‘O’ or ‘P’ indicating absence of name or number.
MESSAGE	PRIVATE_NUMBER	Message that is displayed for the specified reason.

Figure 24 provides sample datafill for table REASONS using reason IDs AINRSNNAMEO and AINRSNNUMBERP.

Figure 24 Sample datafill for table REASONS

```
     REASNSET          REASONID          MESSAGE
-------------------------------------------------------------------------
DEFAULTSET          AINRSNNAMEP      PRIVATE_NAME
DEFAULTSET          AINRSNNUMBERO OUT_OF_AREA
```

10.9 Table STRATTRS

Table STRATTRS provides Line Attributes for the translation of Destination Address provided in the Send_To_Resource Interaction message.

10.9.1 Datafill sequence and implications

The STRATTRS table must be datafilled in the following sequence.

- KEY
- LINE ATTRIBUTE INDEX
- XLAPLAN
- RATEAREA
- BILLING

10.9.2 Table size

The size of this table changes dynamically: The minimum is 0 tuples. The maximum depends on the number of configurable IPs.

10.9.3 Datafill

The following table lists datafill specific to Table STRATTRS.

Table 249 Fields from Table STRATTRS

Field	Subfield	Entry	Explanation and action
KEY	FROMDIGS, TODIGS		Destination address key. This is a Directory Number associated with the Remote Intelligent Peripheral.
FROMDIGS		Vector of 10 digits (10 {N, 1, 2, 3, 4, 5, 6, 7, 8, 9, 0}'S)	From Digits. This is a Directory Number associated with the start of the range of the Destination Address and can be a vector of 10 digits.

Table 249 Fields from Table STRATTRS

Field	Subfield	Entry	Explanation and action
TODIGS		Vector of 10 digits (10 {N, 1, 2, 3, 4, 5, 6, 7, 8, 9, 0}'S)	To Digits. This is a Directory Number associated with the end of the range of the Destination Address and can be a vector of 10 digits.
LINEATTR	NA	Alphanumeric (1-16 chars)	Line Attribute Index. Enter the line attribute index as defined in Table LINEATTR.
XLAPLAN	NA	Alphanumeric (1-16 chars)	Translations plan index. Enter the XLAPLAN line attributes index to identify the translations plan as defined in Table XLAPLAN.
RATEAREA	NA	Alphanumeric (1-16)	Rate area index. Enter the RATEAREA line attributes index to identify the RATEAREA line attributes as defined in Table RATEAREA.
BILLING	NA	N, Y	Billing. Enter Y or N.

10.9.4 Datafill example

The following figure shows sample datafill for Table STRATTRS.

Figure 25 MAP display example for Table STRATTRS

```
>Table STRATTRS
>ADD

MACHINES NOT IN SYNC - DMOS NOT ALLOWED
JOURNAL FILE UNAVAILABLE - DMOS NOT ALLOWED
ENTER Y TO CONTINUE PROCESSING OR N TO QUIT
>Y

KEY:
>4164671001 4164671999
LINEATTR:
>413
XLAPLAN:
>416_P621_418
>RATEAREA:
>L416_LATA1_400
>BILLING:

>Y
TUPLE TO BE ADDED:
4164671001  4164671999 413 416_P621_418 L416_LATA1_400 Y
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>Y
TUPLE ADDED
```

10.9.5 Supplementary information

Not applicable.

10.10 Table TFSSCRN

The table lists the toll-free numbers subject to GR-2892 processing. When a number hits the NSC selector it is checked to see whether it is on this list. When the number is on the list, it bypasses TR-533 processing and proceeds as normal AIN call.

10.10.1 Datafill sequence and implications

Datafill one of the following tables before table TFSSCRN:

- TRIGDIG
- TRIGITM

When a corresponding AIN trigger is not present in table TRIGDIG the results are as follows:

- numbers in table TFSSCRN bypass E800 for the US market and 800P for the Canadian market
- a database query does not occur
- the call is routed to treatment

10.10.2 Table size

0 to 32 000 tuples

10.10.3 Datafill

The following table lists datafill specific to table TFSSCRN.

Table 250 Fields from table TFSSCRN

Field name	Subfield	Entry	Explanation and action
TFSCODE		800, 822, 833, 844, 855, 866, 877, or 888	Toll-free service code. Describes the toll-free code (SAC) in use.
FROMNXX		000 to 999	From number xx. Describes the lower bound of the range of the numbers in this SAC, that are processed by GR-2892.
TONXX		000 to 999	To number xx. Describes the upper bound of the range of the numbers belonging to GR-2892.

10.10.4 Datafill example

The following sample shows sample datafill for table TFSSCRN. The first two tuples illustrate six digit segregation between TR-533 and GR-2892 calls. The third tuple illustrate 3 digit segregation.

Figure 26 MAP display example for table TFSSCRN

```
TFSCODE            FROMNXX TONXX
--------------------------------
   800                 822   999
   866                 000   999
   877                 622   999
```

10.10.5 Supplementary information

Not applicable

10.11 Table TIESCDIG

Table TIESCDIG administers the digit-based escape criteria for AIN trigger items in table TRIGITM.

Table TIESCDIG allows operating companies to define a set of digit patterns to escape a trigger item. Patterns are entered one per tuple and grouped together to form an escape group. Escape groups are referenced by table TRIGITM when a digit-based escape criterion (such as ESCDIG or ESCCDN) is datafilled.

10.11.1 Datafill sequence and implications

Datafill table TIESCDIG before table TRIGITM.

10.11.2 Table size

The system dynamically allocates the table size from 0 to 256 escape groups (0 to 32 000 tuples).

10.11.3 Datafill

The following table lists datafill for table TIESCDIG.

Table 251 Fields from table TIESCDIG

Field name	Subfield	Entry	Explanation and action
ESCGRP		alphanumeric (1 to 8 characters)	Digit based escape group name. Datafill the escape group name.
ESCDIGS		numeric (1 to 18 digits)	Escape Digits. Datafill a vector of 1 to 18 digits to represent the dialed digits.

10.11.4 Datafill example

The following sample shows sample datafill for table TIESCDIG. In this example, when assigned to a trigger item in TRIGITM, the OBNAESC group will escape the datafilled trigger for NPAs 514 and 819, NPA-NXX 613622 and 613623 and for DN 6135551212.

Figure 27 MAP display example for table TIESCDIG

```
ESCGRP                                                  ESCDIGS
---------------------------------------------------------------

OBNAESC                                                 514
OBNAESC                                                 6135551212
OBNAESC                                                 613622
OBNAESC                                                 613623
OBNAESC                                                 819
OHDESC                                                  514
OHDESC                                                  613
OBNAESC                                                 819
```

10.11.5 Supplementary information

Not applicable

10.12 Table TRGSIESC

Table TRGSIESC stores an escape code list for the Shared Interoffice Trunk trigger. The INTEROFF trigger subscribed against a pretranslation code is bypassed when the called digits match any digit pattern datafilled in table TRGSIESC.

At the information collected TDP, after translation of the pretranslation code has taken place–that is, the 0ZZXXX(X) digits are removed–the inpulsed called digits are compared to the digits datafilled in table TRGSIESC. When any of the first ten digits match the digit pattern of the escape code, the call bypasses the INTEROFF trigger and continues through regular translations. Other triggers are not affected by the escape list in table TRGSIESC.

The digit format in table TRGSIESC is one to ten digits from N to NPA-NXX-XXXX. The NPA or NPA-NXX values do not have to appear in other SSP data tables; they can correspond to SCP-based service dial patterns

10.12.1 Datafill sequence and implications

Not applicable

10.12.2 Table size

A maximum of 32 766 digits can be datafilled in table TRGSIESC.

10.12.3 Datafill

The following table lists datafill specific to AIN for table TRGSIESC.

Table 252 Fields from table TRGSIESC

Field name	Subfield	Entry	Explanation and action
ESCAPECD		see subfield	Escape code. Consists of subfield DIGILATOR_KEY.
	DIGILATOR_KEY	numeric (up to 18 digits)	Digilator key. Enter the digit patterns intended to escape processing the Shared Interoffice Trunk trigger and continue through regular translations

10.12.4 Datafill example

The following sample shows sample datafill for table TRGSIESC

Figure 28 MAP display example for table TRGSIESC

```
          ESCAPECD
------------------
               800
            888375
            888641
            888723
```

10.12.5 Supplementary information

Not applicable

10.13 Table TRIGDIG

Table TRIGDIG is used to specify trigger digit criteria and is based on the dialed digits. The table also indicates the action required when a match occurs between dialed digits and digits datafilled in the corresponding tuple.

Use table TRIGDIG to provision triggers through the TRIGGRP provisioning interface.

10.13.1 Datafill sequence and implications

Datafill this table before table TFSSCRN.

10.13.2 Table size

0 to 32766 tuples

10.13.3 Datafill

The following table lists datafill specific to AIN for table TRIGDIG. Only those fields that apply directly to AIN are shown. For a description of the other fields, refer to the data schema section of the *Translations Guide*.

Table 253 Fields from table TRIGDIG

Field name	Subfield	Entry	Explanation and action
KEY		see subfields	Key. This field is the key to table TRIGDIG and contains subfields DIGNAME, TRIGGER, and DIGITS.
	DIGNAME	alphanumeric (1 to 8 characters)	Digit name. Enter the digit translator. The entry in this subfield is the index from table TRIGGRP, subfield DIGNAME. A maximum of 2048 translator names can be entered.

Table 253 Fields from table TRIGDIG (Continued)

Field name	Subfield	Entry	Explanation and action
	TRIGGER	AFR, CDPCODE, INTEROFF, LNP, N11, OCPB, OFFHKIMM, OFFHKDEL, ONOA, PODP, PODPFEAT, SFC, TERMATT	Trigger. Enter the name of the subscribed trigger. Enter AFR for the Automatic Flexible Routing trigger. Enter CDPCODE for the Customized Dialing Plan trigger. Enter INTEROFF for the shared interoffice trunk trigger. Enter LNP for the local number portability trigger. Enter N11 for the N11 trigger. Enter OCPB for the Originating Called Party Busy trigger. Enter OFFHKIMM for the Off Hook Immediate trigger. Enter OFFHKDEL for the Off Hook Delay trigger. Enter ONOA for the Originating No Answer trigger. Enter PODP for the Specific Digit String trigger. Enter PODPFEAT for the Public Feature Code trigger. Enter SFC for the Specific Feature Code trigger. Enter TERMATT for the Termination Attempt trigger.
	DIGITS	0 to 9, B or C (1 to 18 characters)	Digits. Enter the digits to be matched against the digits specified for the trigger. Use B to represent an asterisk (*) and C to represent an octothorpe (#). ***Note:*** The digit criterion for the PODP trigger must be specified in 3 to 10 digit patterns, that is, NPA,NPAN,NPANX, NPANXX,NPANXXX,NPANXXXX,NPANXXXXX,NPANXXXXXX. Prefix digits and N11 codes are not supported as digit criterion for the PODP trigger.

Table 253 Fields from table TRIGDIG (Continued)

Field name	Subfield	Entry	Explanation and action
TRIGGER		AFR, CDPCODE, INTEROFF, LNP, N11, OCPB, OFFHKIMM, OFFHKDEL, ONOA, PODP, PODPFEAT, SFC, TERMATT	Trigger. Enter the name of a subscribed trigger type. The entry for this field must match the entry in subfield TRIGGER. When the entry in subfield TRIGGER is CDPCODE, enter CDPCODE and datafill refinement RPRTDIGS.
	RPRTDIGS	TRANS, NOTRANS	Report digits. When the entry in field TRIGGER is CDPCODE, datafill this refinement. This subfield indicates whether the SSP performs digit translation on the extension number before it sends a query message. Enter TRANS to make the SSP perform digit manipulation. Enter NOTRANS to make the SSP query using exact digits dialed.
ACTION		see subfield	Action. Consists of subfield ACTION.
	ACTION	EVENT, ESCAPE	Action type. Enter the action to be taken by the SSP when the dialed digits match the value in subfield DIGITS. Enter EVENT to launch a query to the SCP or adjunct when the SSP determines that the trigger criteria of are met. Datafill refinements PROTOCOL, MSGSET, and TRANSPRT. Enter ESCAPE to allow the dialed number to escape the trigger when the dialed number matches the specified escape criteria.
	PROTOCOL	TCAP	Protocol. Enter TCAP (transaction capabilities application part) for the protocol to be used to communicate with the SCP or adjunct.

Table 253 Fields from table TRIGDIG (Continued)

Field name	Subfield	Entry	Explanation and action
	MSGSET	R01, R02	Message set. Enter the protocol version to be used to communicate with the SCP or adjunct. Enter R01 to make the specified trigger behave as it is defined in TR-1184. Enter R02 to make the specified trigger behave as it is defined in GR-1298.
	TRANSPRT	SS7	Transport. Enter the transport medium used to communicate with the SCP or adjunct. Enter SS7 to indicate a signaling system number 7 transport medium. Datafill refinements GTT and GTSOURCE.
	GTT	alphanumeric (1 to 16 characters)	Global title translator. When the entry in subfield TRANSPRT is SS7, datafill this refinement. This field is an index into table C7GTTYPE. Enter a global title translation (GTT) name previously datafilled in table C7GTTYPE.
	GTSOURCE	CALLED, CHARGE, or DFLT	Global title source. When the entry in subfield TRANSPRT is SS7, datafill this refinement. This subfield indicates whether the global title value in the SCCP called party address is taken from the called party number, charge number, or the service key. Enter CALLED when the global title value in the SCCP called party address is taken from the called party number. The CALLED value is valid only for the Called Party Number or the SPC criteria. Enter CHARGE when the global title value is taken from the charge number. Enter DFLT when the service key value is to be used as the index into table C7GTT.
OPTIONS		see subfield	Options. This field contains subfield OPTION.

Table 253 Fields from table TRIGDIG (Continued)

Field name	Subfield	Entry	Explanation and action
	OPTION	DFLTRT, POTUSE	Option. Specifies information required when the InitialDP is built. Enter DFLTRT for default routing. This option applies only to triggers N11 and PODP, and occurs when the call encounters an error condition. Datafill subfield SELECTOR. Enter POTUSE to specify the AIN 01 Essentials PODP trigger for a specific service or potential use. Datafill refinement POTUSE.
	SELECTOR	ANNDN, ANN, or DN	Selector. This subfield specifies the voice announcement and directory number selection. Enter ANN for announcement. Datafill refinement ANNIDX. Enter ANNDN for announcement and directory number. Datafill refinements ANNIDX and DN. Enter DN for directory number. Datafill refinement DN.
	ANNIDX	1 to 65535	Announcement index. Enter the voice announcement index (from table AINANNS) of the announcement to be played.
	DN	numeric (1 to 15 digits) or $	Directory number. Enter the directory number used to route the call. When the DN is $, call processing continues to the next point in call.
	POTUSE	TFS	Potential use indicator. Enter TFS to identify Toll-Free service on AIN calls. Entry TFS is valid only when the entry in subfield MSGSET is R02.

10.13.4 Datafill example

The following sample shows sample datafill for table TRIGDIG.

Figure 29 MAP display example for table TRIGDIG

```
                               KEY          TRIGGER
                                 ACTION
                                                          OPTIONS
-------------------------------------------------------------------
PODPDIG      PODP               613             PODP
 EVENT TCAP R01 SS7 GTT1 DFLT
                                                                $
PODPDIG      PODP            613722             PODP
EVENT TCAP R02 SS7 GTT2 DFLT
                                                      DFLRT ANN 6
CDP1      CDPCODE                 9 CDPCODE NOTRANS
EVENT TCAP R01 SS7 GTT3 DFLT
                                                                $
PODPDIG     PODP             800811             PODP
EVENT TCAP R02 SS7 GTT DFLT
                                                     (POTUSE TFS)
SFCDIG       SFC                B23              SFC
EVENT TCAP R02 SS7 GTYP DFLT
                                                                $
DIG2       PODP               613711             PODP
ESCAPE
                                                                $
```

10.13.5 Supplementary information

Not applicable

10.14 Table TRIGESC

Table TRIGESC stores public office dialing plan digits corresponding to escape codes used at the off-hook delay trigger for AIN. When the received digits match the digits stored in table TRIGESC, the call proceeds with normal call processing. When the received digits do not match the digits stored in table TRIGESC, the call acts on the trigger, that is, a query is launched to the SCP.

Table TRIGGRP queries table TRIGESC to determine the escape codes when the ESC (escape) criteria is datafilled.

10.14.1 Datafill sequence and implications

Not applicable

10.14.2 Table size

10.14.3 Datafill

The following table lists datafill specific to AIN for table TRIGESC.

Table 254 Fields from table TRIGESC

Field name	Subfield	Entry	Explanation and action
KEY		see subfield	Digilator table key. Consists of subfield DIGILATOR_KEY.
	DIGILATOR_KEY	numeric (up to 18 digits)	Digilator key. Enter the digit pattern intended to escape processing the INFO_COLLECTED trigger and continue through regular translations.

10.14.4 Datafill example

The following sample shows sample datafill for table TRIGESC

Figure 30 MAP display example for table TRIGESC

```
                KEY
------------------
                411
                911
```

10.14.5 Supplementary information

Not applicable

10.15 Table TRIGGRP

Table TRIGGRP is the main table used for defining AIN behavior. The table is indexed by a two-part key consisting of

- the AIN group (field TRIGNAME) that associates a symbolic name to a grouping of subscribed TDPs and their triggers
- a TDP (field TDP) that is a symbolic name representing a certain TDP

Operating company personnel can assign one or more triggers and trigger criteria for each key. The AIN behavior associated with each trigger group and TDP is provided in field TRIGDATA and its subfields TRIGGER, CRITERIA, and INFONAME.

Each application using table TRIGGRP supplies checks for invalid triggers at a given TDP, and invalid criteria at a given TDP and trigger combination.

The order of triggers listed in each tuple (in table TRIGGRP) are in the same order they were when they were encountered during call processing.

When a TDP has more than one trigger, trigger precedence is handled in the following order:

- triggers assigned on an individual basis
- triggers assigned on a group basis
- triggers assigned on an office basis

10.15.1 Datafill sequence and implications

Datafill the following tables before table TRIGGRP:

- TRIGDIG
- TRIGINFO

10.15.2 Table size

0 to 31 999 tuples

10.15.3 Datafill

The following table lists datafill specific to AIN for table TRIGGRP.

Table 255 Fields from table TRIGGRP

Field name	Subfield	Entry	Explanation and action
KEY		see subfields	Key. Consists of subfields TRIGNAME and TDP.

Table 255 Fields from table TRIGGRP

Field name	Subfield	Entry	Explanation and action
	TRIGNAME		Trigger name. Enter the trigger name that is used to define a group of triggers. Table TRIGGRP associates a symbolic name to a grouping of subscribed trigger detection points (TDP) and their triggers. The symbolic name is bound against a type (an AIN group identifier) and is used in subscription tables.
	TDP	ORIGATT, INFOCOL, INFOANAL, NETBUSY, TERMATT, OCPB, ONOA	Trigger detection points. Enter the required TDP. Enter ORIGATT for the Origination_Attempt TDP. Enter INFOCOL for the Info_Collected TDP. Enter INFOANAL for the Info_Analyzed TDP. Enter NETBUSY for the Network_Busy TDP. Enter TERMATT for the Termination_Attempt TDP. Enter OCPB for the O_Called_Party_Busy TDP. Enter ONOA for the O_No_Answer TDP.
TRIGDATA		see subfields	Trigger data. This field consists of up to 16 multiples of subfields TRIGGER, CRITERIA, and INFONAME. When less than 16 multiples are required, end the list with a $ (dollar sign).

Table 255 Fields from table TRIGGRP

Field name	Subfield	Entry	Explanation and action
	TRIGGER	AFR, CDPCODE, INTEROFF, LNP, N11, OCPB, OFFHKIMM, OFFHKDEL, ONOA, PODP, PODPFEAT, SFC, TERMATT	Trigger. During call processing, the triggers are checked in the order that they appear in this table. Enter the name of the subscribed trigger. Enter AFR for the Automatic Flexible Routing trigger. Enter CDPCODE for the Customized Dialing Plan trigger. Enter INTEROFF for the shared interoffice trunk trigger. Enter LNP for the local number portability trigger. Enter N11 for the N11 trigger. Enter OCPB for the Originating Called Party Busy trigger. Datafill subfield INFONAME. Enter OFFHKIMM for the Off Hook Immediate trigger. Enter OFFHKDEL for the Off Hook Delay trigger. Enter ONOA for the Originating No Answer trigger. Datafill subfield INFONAME. Enter PODP for the Specific Digit String trigger. Enter PODPFEAT for the Public Feature Code trigger. Enter SFC for the Specific Feature Code trigger. Enter TERMATT for trigger Termination Attempt.

Table 255 Fields from table TRIGGRP

Field name	Subfield	Entry	Explanation and action
	CRITERIA	CT, DG, ESC, ESCCN, ESCDN, ESCEA, ESCGP, ESCMDC, or ESCOP	Criteria types. Enter up to seven criteria selectors. When fewer than four selectors are required, end the list with a $ (dollar sign). Enter CT for call type and datafill subfield CALLTYPE. Enter DG for digit and datafill subfield DIGNAME. Enter ESC when calls where an escape code has not been dialed should trigger. Escape codes for the off-hook delay trigger are datafilled in table TRIGESC. Escape codes for the Shared Interoffice trigger are datafilled in table TRGSIESC. Escape code criteria is mandatory for the Off-Hook Delay trigger and optional for the Shared Interoffice trigger. Enter ESCCN to prevent coin dial tone first (CDF), coin coin-first (CCF), and coin semi-postpay (CSP) agent calls (both POTS and RES) from triggering. The option only applies on the originating switch. Datafill subfield TYPECALL. Enter ESCDN to escape a trigger when the dialed DN is resident on the switch. Enter ESCEA to escape a trigger when the call is an equal access call. Enter ESCGP to escape the PODP trigger when the generic address parameter is present. Enter ESCMDC to escape trigger Off_Hook_Delay when the call is placed in the Intercom Range Enter ESCOP to escape a trigger when the call is an operator call.

Table 255 Fields from table TRIGGRP

Field name	Subfield	Entry	Explanation and action
	INFONAME	alphanumeric (1 to 8 characters)	Trigger information identifier. Enter the trigger information identifier. The entry is either NIL or an index into table TRIGINFO. When field DIGNAME contains datafill, the entry in subfield INFONAME must be NIL. When trigger AFR is used, the entry in subfield INFONAME must be NIL.
	DIGNAME	alphanumeric (1 to 8 characters)	Digit name. Enter the digit translator used to index into table TRIGDIG. The digit name must be previously datafilled in table TRIGDIG. When this field contains datafill, the value in subfield INFONAME must NIL.
	CALLTYPE	CMDATA, VBINFO	Call type. When the entry in field CRITERIA is CT, datafill this refinement. Enter CMDATA for circuit mode data. Enter VBINFO for voice-band information.
	TYPECALL	DD, DD_NP, DD_OA, NP, OA, OA_NP, or ALL	Type of call. Specifies the type of coin call. When the value in subfield CRITERIA is ESCCN, datafill this subfield. Enter DD for direct dialed. Enter DD_NP for direct dialed and no prefix local. Enter DD_OA for direct dialed and operator assisted. Enter NP for no prefix local. Enter OA for operator assisted. Enter OA_NP for operator assisted and no prefix local. Enter ALL for direct dialed, no prefix local, and operator assisted.

10.15.4 Datafill example

The following sample shows sample datafill for table TRIGGRP.

Figure 31 MAP display example for table TRIGGRP

```
                    KEY
                                                    TRIGDATA
------------------------------------------------------------------
     ENAUTO_SFC INFOANAL
(SFC ( DG SFCDIG) $ NIL)$

         ENAUTO_BNA ONOA
(ONOA $ ENAUTO) $

        ENAUTO_OCPB OCPB
(OCPB $ ENAUTO) $
```

10.15.5 Supplementary information

Not applicable

10.16 Table TRIGINFO

Table TRIGINFO specifies the address of the SCP (adjunct) that is used when no references to table TRIGDIG are provided for a trigger in table TRIGGRP.

Use table TRIGINFO to datafill triggers through the TRIGGRP provisioning interface.

10.16.1 Datafill sequence and implications

Datafill the following tables before table TRIGINFO:

- C7GTTYPE (for global title translation [GTT])
- E911ESN

Entries cannot be deleted from table TRIGINFO when the entry is referenced by another table.

10.16.2 Table size

0 to 4095 tuples

10.16.3 Datafill

The following table lists datafill specific to AIN for table TRIGINFO.

Table 256 Fields from table TRIGINFO

Field name	Subfield	Entry	Explanation and action
KEY		see subfield	Key. Consists of subfield INFONAME.
	INFONAME	alphanumeric (1 to 8 characters)	Trigger information identifier. Enter the trigger information identifier. This field is the key to the table. Table TRIGGRP and the AFR trigger routing tables reference this identifier
ACTION		see subfield	Action. Consists of subfield ACTION.
	ACTION	EVENT, ESCAPE	Action type. Enter the action to be taken by the SSP when the dialed digits match the value in subfield DIGITS. Enter EVENT to launch a query to the SCP or adjunct when the SSP determines that the trigger criteria of are met. Datafill refinements PROTOCOL, MSGSET, and TRANSPRT. Enter ESCAPE to allow the dialed number to escape the trigger when the dialed number matches the specified escape criteria.
	PROTOCOL	TCAP	Protocol. Enter the protocol to be used to communicate with the SCP or adjunct. Enter TCAP for the transaction capabilities application part.
	MSGSET	R01, R02	Message set. Enter the protocol version to be used to communicate with the SCP or adjunct. Enter R01 to make the specified trigger behave as it is defined in TR-1184. Enter R02 to make the specified trigger behave as it is defined in GR-1298.
	TRANSPRT	SS7	Transport. Enter the transport medium used to communicate with the SCP or adjunct. Enter SS7 to indicate a signaling system number 7 transport medium. Datafill refinements GTT and GTSOURCE.

Table 256 Fields from table TRIGINFO

Field name	Subfield	Entry	Explanation and action
	GTT	alphanumeric (1 to 16 characters)	Global title translator. When the entry in subfield TRANSPRT is SS7, datafill this refinement. This field is an index into table C7GTTYPE. Enter a global title translation (GTT) name previously datafilled in table C7GTTYPE.
	GTSOURCE	CALLED, CHARGE, or DFLT	Global title source. When the entry in subfield TRANSPRT is SS7, datafill this refinement. This subfield indicates whether the global title value in the SCCP called party address is taken from the called party number, charge number, or the service key. Enter CALLED when the global title value in the SCCP called party address is taken from the called party number. The CALLED value is valid only for the Called Party Number or the SPC criteria. Enter CHARGE when the global title value is taken from the charge number. Enter DFLT when the service key value is to be used as the index into table C7GTT.
OPTIONS		see subfield	Options. This field contains subfield OPTION.
	OPTION	DFLTRT, POTUSE	Option. Specifies information required when the InitialDP is built. Enter DFLTRT for default routing. This option applies only to triggers N11 and PODP, and occurs when the call encounters an error condition. Datafill subfield SELECTOR. Enter POTUSE to specify the AIN 01 Essentials PODP trigger for a specific service or potential use. Datafill refinement POTUSE.

Table 256 Fields from table TRIGINFO

Field name	Subfield	Entry	Explanation and action
	SELECTOR	ANNDN, ANN, DN, or E911ESN	Selector. This subfield specifies the voice announcement and directory number selection. Enter ANN for announcement. Datafill refinement ANNIDX. Enter ANNDN for announcement and directory number. Datafill refinements ANNIDX and DN. Enter DN for directory number. Datafill refinement DN. Enter E911ESN to access information in table E911ESN. This entry is valid only against the TERMATT trigger. Datafill refinement ESN. See the Translations Guide, for additional information on the enhanced 911 service.
	ANNIDX	1 to 65535	Announcement index. Enter the voice announcement index (from table AINANNS) of the announcement to be played.
	DN	numeric (1 to 15 digits) or $	Directory number. Enter the directory number used to route the call. When the DN is $, call processing continues to the next point in call.
	ESN	0 to 15999	Emergency service number. Enter the number used to index table E911ESN.
	POTUSE	TFS	Potential use indicator. Enter TFS to identify Toll-Free service on AIN calls. Entry TFS is valid only when the entry in subfield MSGSET is R02.

10.16.4 Datafill example

The following sample shows sample datafill for table TRIGINFO.

Figure 32 MAP display example for table TRIGINFO

```
  KEY                                      ACTION
                                                         OPTIONS
--------------------------------------------------------------------
   SLHR1  EVENT TCAP R02   SS7      AINJAZZ   DFLT
                                                               $

   SLHR2  EVENT TCAP R02   SS7      AINJAZZ   DFLT
                              (DFLTRT   ANNDN 32       6137224012)$

   SLHR3  EVENT TCAP R02   SS7      AINJAZZ   DFLT
                                             (DFLTRT    ANN 64   )$

   SLHR4  EVENT TCAP R02   SS7      AINJAZZ   DFLT
                                    (DFLTRT     DN        7224012)$

   SLHR5  EVENT TCAP R01   SS7      AINJAZZ   DFLT
                                                               $

   SLHR6  EVENT TCAP R01   SS7      AINJAZZ   DFLT
                              (DFLTRT   ANNDN 13       6136219001)$

   SLHR7  EVENT TCAP R01   SS7      AINJAZZ   DFLT
                                             (DFLTRT    ANN 23   )$

   SLHR8  EVENT TCAP R01   SS7      AINJAZZ   DFLT
                                              (DFLTRT DN 7228828) $
```

10.16.5 Supplementary information

Not applicable

10.17 Table TRIGITM

The TRIGITM table stores the trigger items according to Bellcore GR-1298. The TRIGITM, OFCTIID, CUSTTIID, and TIESCDIG tables collectively define the trigger items and the trigger item subscription context supported by the DMS trigger item interface. The table supports all individually subscribed triggers.

10.17.1 Datafill sequence and implications

Datafill the following tables before table TRIGITM:

- C7GTTYPE
- TIESCDIG

When specifying the LARP option, datafill the following tables before table TRIGITM:

- LINEATTR
- XLAPLAN
- RATEAREA
- OCCNAME
- OCCINFO

Datafill the following tables after table TRIGITM:

- AINPRI
- OFCTIID
- CUSTTIID

10.17.2 Table size

0 to 32000 tuples.

10.17.3 Datafill

The following table lists datafill specific to table TRIGITM.

Table 257 Fields from table TRIGITM

Field name	Subfield	Entry	Explanation and action
TDP	TDP	1, 3, 4, 17, 19, 20, 22, 30, 32, or 33	Trigger detection point. Enter the number that represents the desired TDP. Enter 1 for the Origination_Attempt TDP. Enter 3 for the Info_Collected TDP. Enter 4 for the Info_Analyzed TDP. Enter 17 for the Network_Busy TDP. Enter 19 for the O_Called_Party_Busy TDP. Enter 20 for the Termination_Attempt TDP. Enter 22 for the Term_Resource_Available TDP. Enter 30 for the T_Busy TDP. Enter 32 for the T_No_Answer TDP. Enter 33 for the O_No_Answer TDP
TINAME	N/A	alphanumeric (1 to 8 characters)	Trigger item name. Enter an alphanumeric character string that represents the corresponding trigger item name. The DMS-100 SSP supports case sensitive values for the TINAME field when it is entered between single quotes (for example, ‘Sds01’).

Table 257 Fields from table TRIGITM (Continued)

Field name	Subfield	Entry	Explanation and action
TRIGGER	N/A	AFR, CDPCODE, INTEROFF, LNP, N11, OCPB, OFFHKDEL, OFFHKIMM, ONOA, PFC, PRIB, SDS, SFC, TBUSY, TERMATT, TKTERM, TNOA, TRA, SPECARR, ONEPLUS, INTERNTL, OPERSERV, ESCPRFX	Trigger. During call processing, the triggers are checked in the order that they appear in this table. Enter the name of the subscribed trigger. Enter AFR for the Automatic Flexible Routing trigger. Enter CDPCODE for the Customized Dialing Plan trigger. Datafill field TRIGDATA. Enter INTEROFF for the shared interoffice trunk trigger. Enter LNP for the local number portability trigger. Enter N11 for the N11 trigger. Enter OCPB for the Originating Called Party Busy trigger. Enter OFFHKDEL for the Off Hook Delay trigger. Enter OFFHKIMM for the Off Hook Immediate trigger. Enter ONOA for the Originating No Answer trigger. Enter PFC for Public Feature Code. Enter PRIB for the Channel Setup PRI trigger. Enter SDS for the Specific Digit String feature. Enter SFC for the Specific Feature Code trigger. Enter TBUSY for the Terminating Busy trigger. Enter TERMATT for the Termination Attempt trigger. Enter TKTERM for Trunk Group Trigger. Enter TNOA for trigger Terminating No Answer. Enter SPECARR for trigger Specified Carrier. Enter ONEPLUS for trigger One Plus Prefix. Enter INTERNTL for trigger International. Enter OPERSERV for trigger Operator Services. Enter TRA for trigger Term Resource Available. Enter ESCPRFX to escape triggering when the called prefix is present in Table AINPRESC.

Table 257 Fields from table TRIGITM (Continued)

Field name	Subfield	Entry	Explanation and action
TRIGDATA	N/A	see subfield	Trigger data. Consists of subfield RPRTDIGS.
	RPRTDIGS	TRANS, NOTRANS	Report digits. When the entry in field TRIGGER is CDPCODE, datafill this refinement. This subfield indicates whether the SSP performs digit translation on the extension number before it sends a query message. Enter TRANS to make the SSP perform digit manipulation. Enter NOTRANS to make the SSP query using exact digits dialed.
CRITERIA		see subfield	Trigger criteria. Consists of subfield CRITERIA.
	CRITERIA	CT, DG, ESCCARR, ESCCDN, ESCCN, ESCDIG, ESCDN, ESCDP, ESCEA, ESCFI ESCGP, ESCIDDD, ESCLATA, ESCMDC, ESCOP, ESCPREF	Criteria types. Enter up to four criteria selectors. When less than four selectors are required, end the list with a $(dollar sign). Enter CT for call type and datafill subfield CALLTYPE. Enter DG for digit and datafill subfield DIGITS. Enter ESCCARR to escape triggering when the carrier used to route a call is present in a defined list. Datafill refinement CARRIER_GROUP. Enter ESCCDN to escape triggering when the called DN is present in table TIESCDIG. Datafill refinement ESCGROUP. Enter ESCCN to prevent coin dial tone first (CDF), coin coin-first (CCF), and coin semi-postpay (CSP) agent calls (both POTS and RES) from triggering. The option only applies on the originating switch. Datafill subfield COIN_CALL_TYPE. Enter ESCDIG to escape triggering when the called number is present in table TIESCDIG. Datafill refinement ESCGROUP. Enter ESCDN to escape triggering when the dialed DN is resident on the switch. Enter ESCDP to escape triggering when the call originates using dial pulse signaling. Enter ESCEA to escape triggering when the call is an equal access call. Enter ESCFI to escape triggering when at least one of the feature interactions defined in subfield FIS occur. Datafill refinement FIS.

Table 257 Fields from table TRIGITM (Continued)

Field name	Subfield	Entry	Explanation and action
			Enter ESCGP to escape the SDS trigger when the generic address parameter is present. Enter ESCIDDD to escape triggering when the call is international direct distance dialing. Enter ESCLATA to escape triggering when the call is either intralata or interlata toll. Datafill refinements INTRATOLL and INTERTOLL. Enter ESCMDC to escape the Off_Hook_Delay trigger when the call is placed in the Intercom Range Enter ESCOP to escape a trigger when the call is an operator call. ESCPREF this functionality is visible, but not applicable to the North American market.
	CALLTYPE	CMDATA, VBINFO	Call type. When the entry in subfield CRITERIA is CT, datafill this refinement. Enter CMDATA for circuit mode data. Enter VBINFO for voice-band information.
	DIGITS	numeric (1 to 10 digits)	Digits. Datafill this subfield when the entry in subfield CRITERIA is DG. Specifies the digits that must match the dialed digits in order for the call to escape or encounter triggering. ***Note:*** The digit criterion for the SDS trigger must be specified in 3 to 10 digit patterns, that is, NPA,NPAN,NPANX, NPANXX,NPANXXX,NPANXXXX,NPANXXXXX,NPANXXXXXX. Prefix digits and N11 codes are not supported as digit criterion for the SDS trigger.
	CARRIER_ GROUP		Carrier group. Datafill this subfield when the entry in subfield CRITERIA is ESCCARR.
	ESCGROUP		Escape group. Datafill this subfield when the entry in subfield CRITERIA is one of the following entries: ESCDIG, ESCCDN or ESCPREF. When datafilled, this field specifies a group of escape codes defined in table TIESCDIG.

Table 257 Fields from table TRIGITM (Continued)

Field name	Subfield	Entry	Explanation and action
	COIN_CALL_TYPE	DD, DD_NP, DD_OA, NP, OA, OA_NP, or ALL	Coin-call type. Specifies the type of coin call. When the value in subfield CRITERIA is ESCCN, datafill this subfield. Enter DD for direct dialed. Enter DD_NP for direct dialed and no prefix local. Enter DD_OA for direct dialed and operator assisted. Enter NP for no prefix local. Enter OA for operator assisted. Enter OA_NP for operator assisted and no prefix local. Enter ALL for direct dialed, no prefix local, and operator assisted
	FIS	ICS, ACBFAIL, REDIR, AMSG	Escape feature interactions. Specifies a list of disabling feature conditions. When the value in subfield CRITERIA is ESCFI, datafill this subfield. Enter ICS to escape triggering if either ICSDEACT (in call service activation de-activated) or SDSDENY line options are assigned against the triggering agent. Enter ACBFAIL to escape triggering if the DN in the OCMB of the triggering agent is unreliable or if the triggering agent doesn't have access to ACB. Enter REDIR to escape triggering when a redirection occurred on the call prior to the activation of the analyze one, (for example, AIN Forward_Call response is encountered). Enter AMSG to escape triggering when either messaging activation deactivated (MSGDEACT) or AMSGDENY line options are assigned against the triggering agent.
	INTRATOLL	N,Y	Intralata toll call. When the value in subfield CRITERIA is ESCLATA, datafill this subfield. Enter Y to escape triggering when the call is intra-lata toll.
	INTERTOLL	N,Y	Interlata toll call. When the value in subfield CRITERIA is ESCLATA, datafill this subfield. Enter Y to escape the trigger when the call is inter-lata.

Table 257 Fields from table TRIGITM (Continued)

Field name	Subfield	Entry	Explanation and action
STATE		LK or ULK	Administrative state code. Selectively enables or disables a trigger item. The entry in this field affects all subscription links referencing that trigger. Enter LK to deactivate a trigger item. Enter ULK to activate a trigger item.
ACTION		EVENT, ESCAPE	Action type. Enter the action to be taken by the SSP when the dialed digits match the value in subfield DIGITS. Enter EVENT to launch a query to the SCP or adjunct when the SSP determines that the trigger criteria of are met. Datafill field SLHR. Enter ESCAPE to allow the dialed number to escape the trigger when the dialed number matches the specified escape criteria.
SLHR		see subfields	Service logic host route. When the entry in field ACTION is EVENT, datafill subfields PROTOCOL, MSGSET, and TRANSPRT.
	MSGSET	R01, R02	Message set. Enter the protocol version to be used to communicate with the SCP or adjunct. Enter R01 to make the specified trigger behave as it is defined in TR-1184. Enter R02 to make the specified trigger behave as it is defined in GR-1298.
	TRANSPRT	SS7	Transport. Enter the transport medium used to communicate with the SCP or adjunct. Enter SS7 to indicate a signaling system number 7 transport medium. Datafill refinements GTT.
	GTT	alphanumeric (1 to 16 characters)	Global title translator. When the entry in subfield TRANSPRT is SS7, datafill this refinement. This field is an index into table C7GTTYPE. Enter a global title translation (GTT) name previously datafilled in table C7GTTYPE.
OPTIONS		see subfield	Options. Consists of subfield OPTION.

Table 257 Fields from table TRIGITM (Continued)

Field name	Subfield	Entry	Explanation and action
	OPTION	DFLTRT, POTUSE, LARP	Option. Specifies information required when the InitialDP is built. When the entry in field ACTION is EVENT, datafill this field. Enter DFLTRT for default routing. This option applies only to triggers N11 and SDS, and occurs when the call encounters an error condition. Datafill subfield SELECTOR. Enter POTUSE to specify trigger SDS for a specific service or potential use. Datafill refinement POTUSE. Enter LARP to specify overriding line attributes. This option applies to triggers SDS, PFC and N11. Datafill subfields LINEATTR, XLAPLAN, RATEAREA, PIC, LPIC, REDIR, FWDATTR, REDIR_REASON, REDIR_PARTY_ID, TCM, and CHARGE_NUMBER.
	LINEATTR	alphanumeric (1 to 16 characters)	Line Attribute Index. Enter the line attribute index as defined in table LINEATTR.
	XLAPLAN	alphanumeric (1 to 16 characters)	XLAPLAN index. Enter the XLAPLAN line attributes index to identify the translations plan as defined in table XLAPLAN.
	RATEAREA	alphanumeric (1 to 16 characters)	RATEAREA index. Enter the RATEAREA line attributes index to identify the RATEAREA line attributes as defined in table RATEAREA.
	Primary interexchange (or InterLATA) carrier	alphanumeric (1 to 16 characters)	Primary interexchange (or InterLATA) carrier. Enter the PIC as defined in table OCCNAME. For no carrier, enter NILC.
	Local primary intraLATA carrier	alphanumeric (1 to 16 characters)	Local primary intraLATA carrier. Enter the LPIC as defined in table OCCNAME. For no carrier, enter NILC.
	REDIR	N,Y	Redirection field. This subfield is BOOLEAN. Datafill as Y orN. The default value is N.
	FWDATTR	N,Y	Forwarding attribute field. This is a selector field and is a BOOLEAN. Datafill as Y or N. The default value is N. For PFC triggers, FWDATTR cannot be N when REDIR is Y.
	REDIR_ REASON	UNCOND, UNKNOWN, BUSY, NOREPLY	Redirecting reason. Datafill with values specified in Entry. This field will be prompted only when REDIR=Y and FWDATTR=Y.

Table 257 Fields from table TRIGITM (Continued)

Field name	Subfield	Entry	Explanation and action
	REDIR_ PARTY_ID	3 to 15 digits	Redirecting Party ID. Datafill with any valid 3 to 15 digit. The the nil-value is represented by $. This field will be prompted only when REDIR=Y and FWDATTR=Y.
	TCM	0 to 2 digits	Travelling class mark. Datafill with any 2 digit number. The values 11 and 12 are reserved and 10 is a spare. The nil-value is represented by $. This field will be prompted is REDIR='N' and FWDATTR=Y or REDIR=Y and FWDATTR=N.
	CHARGE_ NUMBER	3 to 15 digits	Change Number. Datafill with any valid 3 to 15 digits. The nil-value is represented by $. This field will be prompted is REDIR=N and FWDATTR=Y or REDIR=Y and FWDATTR=N.
	SELECTOR	ANNDN, ANN, DN, or E911ESN	Selector. This subfield specifies the voice announcement and directory number selection. Enter ANN for announcement. Datafill refinement ANNIDX. Enter ANNDN for announcement and directory number. Datafill refinements ANNIDX and DN. Enter DN for directory number. Datafill refinement DN. Enter E911ESN to access information in table E911ESN. This entry is valid only when the entry in field TRIGGER is TERMATT. Datafill refinement ESN. See the Translations Guide, for additional information on the enhanced 911 service.
	ANNIDX	1 to 65535	Announcement index. Enter the voice announcement index to table AINANNS of the announcement to be played.
	DN	numeric (1 to 15 digits) or $	Directory number. Enter the directory number used to route the call. When the DN is $, call processing continues to the next point in call.
	ESN	0 to 15999	Emergency service number. Enter the number used to index table E911ESN.

Table 257 Fields from table TRIGITM (Continued)

Field name	Subfield	Entry	Explanation and action
	POTUSE	TFS, E911	Potential use indicator. Enter TFS to identify toll-free service on AIN calls. Entry TFS is valid only when the entry in subfield MSGSET is R02. When used by AIN TFS for 800P, this option must be datafilled. Enter E911 to identify E911 service on AIN calls. Entry E911 is valid only when the trigger type is TERMATT.

10.17.4 Datafill example

The following sample shows sample datafill for table TRIGITM. The example shows tuples for table TRIGITM in format-pack format.

Figure 33 MAP display example for table TRIGITM

```
TDP TINAME TRIGGER TRIGDATA CRITERIA STATE ACTION SLHR OPTIONS
--------------------------------------------------------------
1 OHI_SIM OFFHKIMM $ ULK EVENT R02 SS7 AINPOP $
4 SDSTRG1 SDS (DG 613) $ LK EVENT R01 SS7 AINROCK $
4 SDSTRG2 SDS (DG 613722)$ ULK EVENT R02 SS7 AINJAZZ (DFLTRT ANN 6 )$
4 SDSTRG3 SDS (DG 800811) $ ULK EVENT R02 SS7 AINJAZZ (POTUSE TFS ) $
4 SDSTRG4 SDS (DG 613772301) $ LK EVENT R02 SS7 AINJAZZ $
4 SDSTRG5 SDS (DG 613745) $ ULK ESCAPE $
4 SDSTRG6 SDS (DG 6136671003) $ ULK EVENT R02 SS7 AINPOP $
4 N11TRIG N11 (DG 911) $ ULK EVENT R02 SS7 AINJAZZ $
4 N11TRIG N11 (DG 611) $ ULK EVENT R02 SS7 AINPOP $
4 PFCTRIG PFC (DG 613667) $ ULK EVENT R02 SS7 AINJAZZ $
4 LNPTRG1 LNP (DG 613722) $ ULK EVENT R01 SS7 AINJAZZ $
4 LNPTRG2 LNP (DG 613711) $ ULK ESCAPE $
17 AFRTRG1 AFR $ ULK EVENT R02 SS7 AINBLUES $
```

10.17.5 Supplementary information

Activity 59037110 in NA017 increased the number of trigger item definitions in Table TRIGITM from 32,000 to 500,000.

During an ONP from a release prior to NA012, SDS trigger item definitions are enhanced to include overriding line attributes that are functionally equivalent to trigger SDS with an associated tuple in table PODPATTR. NA015 enhances this functionality to include PFC and N11 triggers. Where a PODPATTR tuple is found that applies to an existing trigger item, the LARP option is added to the trigger item and datafilled with the overriding line attributes specified by PODPATTR. Table PODPATTR is not modified by this enhancement of the SDS, PFC, and N11 trigger item definitions. Any PODPATTR tuple that is not matched to at least one trigger item is sent to TRACECI output.

PODPATTR conversion messages are not displayed when all of the PODPATTR tuples are converted, table PODPATTR is empty, or the dump side is from the NA012 release or later. See Figure 34.

Figure 34 on page 396 provides displayed PODPATTR conversion messages.

Figure 34 PODPATTR conversion messages during an ONP

```
Note:PODPATTR table is obsolete for trigger items.
Tuples in PODPATTR are converted to the LARP option for appropriate
trigger items.

Printing unconverted PODPATTR keys.
These tuples were not converted to the LARP option on a trigger item as an
appropriate trigger was not found.
PODPATTR tuple unconverted, key = 613621
PODPATTR tuple unconverted, key = 6137225030
PODPATTR tuple unconverted, key = 8192231234
End of unconverted PODPATTR.
```

10.18 Table TRKAIN

Use table TRKAIN to provision individual (non-office wide) AIN triggers for trunk groups. Modifications to table TRKAIN are only supported by Table Control.

10.18.1 Datafill sequence and implications

Datafill the following tables before table TRKAIN.

- TRKGRP
- TRIGGRP

10.18.2 Table size

0 to 8191 tuples

10.18.3 Datafill

The following table lists datafill specific to AIN for table TRKAIN.

Table 258 Fields from table TRKAIN

Field name	Subfield	Entry	Explanation and action
GRPKEY		see subfield	Group key. This field is the key to the table and consists of subfield CLLI.
	CLLI	alphanumeric (1 to 16 characters)	Trunk group key. Enter the CLLI of a trunk group that subscribes to AIN. The trunk group must already exist in table TRKGRP and must represent one of the following trunk group types: • IBNTI • IBNT2 • IBNTO • PRA • TI • IT • P2 (analog) • PX (digital) • T2 • TO ***Note 1:*** The IBNTO and TO trunks groups are supported only for the TKTERM trigger. ***Note 2:*** The trunk-type in most groups must be incoming or two-way. However, TKTERM can be subscribed on outgoing or two-way trunks.
AINGRP		alphanumeric (1 to 16 characters), NIL, or TIID	AIN group. Enter the AIN group name to use datafill in table TRIGGRP. Enter the trigger group name from table TRIGGRP to activate the trigger group provisioning interface. Enter TIID to activate the trigger item provisioning interface. Datafill subfields TIID and TRIGACT.

Table 258 Fields from table TRKAIN

Field name	Subfield	Entry	Explanation and action
	TIID	see subfields	Trigger item identifier. This field consists of subfields TDP and TINAME.
	TDP	3, 17, 19, or 33	Trigger detection point. Enter the number that represents the desired TDP. Enter 3 for the Info_Collected TDP. Enter 17 for the Network_Busy TDP. Enter 19 for the O_Called_Party_Busy TDP. Enter 20 TDP for termintaion_attempt TDP. Enter 33 for the O_No_Answer TDP
	TINAME	alphanumeric (1 to 8 characters)	Trigger item name. Datafill this field to identify the trigger item as defined in table TRIGITM.
	TRIGACT	ON, OFF	Trigger active. Determines the state of the TDP identified in field TIID. Enter ON to activate the trigger item in field TIID. Enter OFF to deactivate the trigger item identified in field TIID.

10.18.4 Datafill example

Two sample tuples in table TRKAIN are shown in the following figure. The first tuple is subscribed to two trigger items, one at the Info_Collected TDP, and the other at the Info_Analyzed TDP. The second tuple is shown subscribed to triggers using the trigger group provisioning interface.s

Figure 35 MAP display example for table TRKAIN

```
      GRPKEY                AINGRP                      AININFO
-------------------------------------------------------------------
      IBNTK                     TIID  ((3 OFFDEL OFF) (17 AFR ON) $
       MFP2                TRK_GRP
```

10.18.5 Supplementary information

AIN Service Enablers triggers only apply to incoming calls on incoming and two-way trunks. See Table 14 “Terminating trunk agents supported by the O_Called_Party_Busy trigger” on page 142 for a list of supported trunks.

SS7 Type 2A and 1/2B trunks can also be provisioned in TRKAIN. These trunk types allow OHD trigger criteria to be matched for SS7 cellular trunks. SS7 cellular trunks are Inter-Toll (IT) trunk group types having the CELL option in table TRKGRP.

TRKAIN allows MF cellular (Type 2A only) trunk groups to be added to TRKAIN. This permits Type 2A MF cellular trunks to subscribe to the Off-Hook Delay (OHD) AIN trigger. Type 2A MF cellular trunks have a trunk group type of ‘CELL’ in table TRKGRP.

11 Software optionality control

This chapter describes the datafilling requirements for setting up the AIN Service Enablers software optionality control (SOC).

AIN SOCs control AIN software activation. This includes all releases of AIN Essentials and AIN Service Enablers. AIN Service Enablers SOCs also count all occurrences of the following messages:

- non call-related AIN Essentials messages
- non call-related AIN Service Enablers messages
- call-related AIN Service Enablers messages

Note: AIN Essentials has field MSGSET set to R01 in tables TRIGDIG, TRIGINFO, and TRIGITM. AIN Service Enablers has field MSGSET set to R02.

These counters permit usage-based billing of operating companies by Nortel Networks.

11.1 Activating AIN SSP software

AIN SSP software has been grouped into SOC options that control the activation of the AIN product. Each SOC option controls specific functions and exists in one of two states: ON or IDLE. There are track options identified as “TRAK” and counter options identified as “>LIM”. An example of the various options and their relative states is provided in Figure 39 on page 419. The options are as follows:

- AIN00002: AIN Essentials option, controls basic AIN functionality.
- AIN00006: AIN Call management option. This option controls all AIN Essentials functionality. This option is dependent on the AIN00002 option.
- AIN00007: AIN Call model control option. This option is a track option associated with features brought forward to enhance AIN Essentials functionality.
- AIN00008: AIN Display services option. This option controls “Display Text to Terminating RES and MDC agents” functionality.

- AIN00009: AIN Services supporting option. This option is a track option associated with features that provide support for services on AIN.
- AIN00010: AIN Default routing option. This option controls Default Routing functionality. The option is dependent on the AIN00006 option.
- AIN00011: AIN SSP Service enhancement option. This option is a track option associated with features delivered in NA005 to enhance SSP functionality.
- AIN00015: AIN Network Services enhancements option. This option is a track option associated with features that enhances network services.
- AIN00018: AIN ACB/AR premium option. This option controls the “ACB/AR” enhanced functionality. The option is dependent on AIN00007.
- AIN00022: AIN Maintenance enhancement option. This option is a track option associated with features that enhances maintenance.
- AIN00026: AIN translations simplification option. This option controls the response translations simplification functionality. The option is dependent on AIN0009.
- AIN00027: AIN Office trigger flex option. This option is a track option associated with the response translation enhancement feature
- AIN00060: AIN DCR Interworking. This option controls AIN DCR Interworking functionality.

  Note: This SOC is part of the Advanced Intelligent Network Essentials product, NA013 release.

- AIN00061: AIN SE R7 OHD for PX Trunks. This option controls AIN OHD for PX Trunks funtionality.

  Note: This SOC is part of the Advanced Intelligent Network Essentials product, NA013 release.

- AIN00210: AIN Service Enablers option. This option controls AIN Service Enablers Release 1 (NA007) functionality.
- AIN00211: AIN Service Enablers Release 2 (NA008) option. This option contains the office-based counts for all office-based messaging.
- AIN00212: AIN Service Enablers Release 2 (NA008) option. This option contains the subscription-based counts for all subscription-based messaging.
- AIN00213: AIN Service Enablers Release 2 (NA008) option. This option contains the non call-related (NCR) based counts for all NCR-based messaging.

- AIN00220: AIN Service Enablers option. This option controls AIN Service Enablers Release 2 (NA008) functionality.
- AIN00230: AIN Service Enablers option. This option is a track option associated with AIN Service Enablers Release 3 (NA009) functionality.
- AIN00231: AIN Service Enablers option. This option controls AIN Service Enablers Alternate Carrier Routing functionality.
- AIN00240: AIN SE R4 - Base option. This option is a track option associated with AIN Service Enablers Release 4 (NA010) functionality.
- AIN00241: AIN SE R4 - ISDN IW option. This option controls the NA010 AIN Service Enablers Channel_Setup_PRI trigger functionality.
- AIN00242: AIN SE R4 - OTS option. This option controls the NA010 AIN Service Enablers O_NOA and O_CPB trigger screening and customer group subscription to O_NOA and O_CPB trigger functionality.
- AIN00243:AIN SE R4 - TCM control option. This option controls the NA010 AIN Service Enablers T_Busy and T_No_Answer triggers and T_Answer event functionality.
- AIN00244:AIN SE R4 - Collect info option. This option controls the NA010 AIN Service Enablers Collect_Information message processing functionality.
- AIN00245: AIN SE R4 - OHD Esc ICM option. This option controls the NA010 AIN Service Enablers OHD Escape for Intercom Calls functionality.
- AIN00250: AIN SE R5 - Base option. This option is a track option associated with AIN Service Enablers Release 5 (NA011) functionality.
- AIN00251: AIN SE R5 - OnePlus Pfx option. This option controls the NA011 AIN Service Enablers One_Plus_Prefix trigger functionality.
- AIN00252: AIN SE R5 - Spfd Cxr Pfx option. This option controls the NA011 AIN Service Enablers Specified_Carrier trigger functionality.
- AIN00253:AIN SE R5 - Intnl Pfx option. This option controls the NA011 AIN Service Enablers International trigger functionality.
- AIN00254:AIN SE R5 - OperSvcs Pfx option. This option controls the NA011 AIN Service Enablers Operator Services trigger functionality.
- AIN00255: AIN SE R5 - Offer call option. This option controls the NA011 AIN Service Enablers Offer Call message processing functionality.
- AIN00260: AIN SE R6 - Base option. This option is a track option associated with AIN Service Enablers Release 6 (NA012) functionality.
- AIN00261: AIN SE R6-BRI MDN DpTxt option. This option controls the NA012 AIN SE delivery of DisplayText parameter information to an ISDN BRI agents functionality.

- AIN00262: AIN SE R6 - MonChng HuntGr option. This option controls the NA012 AIN SE Monitor For Change for Hunt Group functionality.
- AIN00263:AIN SE R6 - ExtndRing Parm option. This option controls the NA012 AIN SE Extended Ringing Parameter functionality.
- AIN00270: AIN SE R7 - AIN Base, and AIN Network tools support for NA013 option. This option controls AIN Nettools support for NA013 functionality.
- AIN00271: AIN SE R7 - Create_Call option. This option controls the NA013 Create_Call functionality.
- AIN00272: AIN SE R7 - OCM METT. This option controls Multiple Extended TCAP transactions (METT) in the OCM functionality.
- AIN00281: AIN SE R8 - Term Resource. This option controls Term Resource Available (TRA) trigger processing functionality.
- AIN00282: AIN SE R8 - Carrier Usage. This option controls CarrierUsage parameter processing functionality.
- AIN00291: AIN SE R9 - External STR-ER. This option controls extended ringing to an external IP.
- AIN00292:AIN SE R9 - DP Converter. This option controls DP-to-DTMF conversion.
- AIN00293: AIN SE R9 - N11 LARP to control the NA015 AIN SE Line Attribute Response Processing for the N11 trigger.
- AIN00294: AIN SE R9 - PFC Trig Admin. This option controls:
  - SFC and PFC Customer group subscriptions and option AINDENY
  - PFC LARP to control the NA015 AIN SE Line Attribute Response Processing for the PFC trigger
- AIN00301: AIN SE R10 - This option controls the O_Disconnect and O_Disconnect_Called Events' functionality.
- AIN00302: AIN SE R10 - Timeout Event. This option controls the Timeout functionality.
- AIN00303: AIN SE R10 - Tstrc Tmr Enh. This option controls the TSTRCTimer parameter decoding.
- AIN00304: AIN SE R10 - Carrier STOR & STR Translations. This option controls the STR specific translations to IP.
- AIN00305: AIN SE R10 - Geo Loc Parm. This option controls the new parameters in the Termination Attempt and Info_analyzed Query messages.
- AIN00306: AIN SE R10 - CTR in CPH (internal). This option controls the CTR messages and its parameters.

- AIN00307: AIN SE R10 - Trig Cap Incr. This option controls the capacity increase for AIN trigger subscriptions.
- AIN00308: AIN SE R10 - Scope Change Tool. This option controls the functionality of the AINSCT tool.
- AIN00309: AIN SE R10 - NA017 OFCPFC trigger. This option controls Trigger OFCPFC during Call Processing.
- AIN00310: AIN SE R11 Upgrade Bundle. This SOC controls various NA018 functionalities:
  - AIN Ping Ring
  - TrunkGroup Trigger
  - Trigger at treatment
  - Hunt-LOD Interaction
  - TCAP-NUM Query
- AIN00311: AIN NA18. AIN SE R11 Pfx Pattern is the new AIN SOC option introduced to control the ESCPRFX and ESCDIG functionality. When SOC AIN00311 is in the IDLE state, criteria checking is not performed.
- AIN00312: AIN SE R11 CDP-800 trigger interworking. This option controls the precedence between E800/800P and CDP trigger.

To activate AIN SSP call processing, both AIN00002 and AIN00006 SOC options must be in the ON state. When these SOC options are ON, triggering is enabled at the TDPs, making database queries possible. When these SOC options are IDLE, triggering is disabled and only datafilling and testing are allowed.

Display services SOC option AIN00008 controls the “Display Text to Terminating RES and MDC agents” functionality and must be in the ON state when Display Text is desired.

Default routing SOC option AIN00010 controls the default routing functionality in R01 message set (AIN 0.1) and must be in the ON state if default rou ing functionality is desired with AIN SSP. This SOC does not impact the default routing functionality in R02 message set (AIN 0.2).

ACB/AR SOC option AIN00018 controls the ACB/AR enhanced functionality and must be in the ON state if ACB/AR functionality is desired.

Translations simplification option AIN00026 controls the response translations simplification functionality and must be in the ON state if it is desired.

Feature Off-Hook Delay (OHD) Trigger on PX Trunks uses software optionality control AIN00061 and must be in the ON state if AIN Service Enablers functionality is desired.

Event-Usage counters SOC options AIN00211, AIN00212 and AIN00213 maintain the office-based, subscription-based and noncall-related (NCR) counters. All AIN Service Enablers call related messages and all AIN Service Enablers and AIN Essentials noncall-related messages are counted. The NCR messages are counted regardless of the states of AIN00210 and AIN00220.

Service Enablers SOC option AIN00210 controls AIN Service Enablers Release 1 (NA007) functionality and must be in the ON state if AIN Service Enablers functionality is desired.

Service Enablers SOC option AIN00220 controls AIN Service Enablers Release 2 (NA008) functionality and must be in the ON state if Release 2 (NA008) functionality is desired.

Service Enablers SOC option AIN00231 controls AIN Service Enablers Alternate Carrier Routing functionality and must be in the ON state if it is desired.

Service Enablers Release 4 ISDN IW SOC option AIN00241 controls AIN Service Enablers Channel_Setup_PRI trigger functionality and must be in the ON state if it is desired.

Service Enablers Release 4 OTS SOC option AIN00242 controls the AIN Service Enablers O_NOA and O_CPB trigger screening and customer group subscription to O_NOA and O_CPB triggers functionality. This option must be in the ON state if it is desired.

Service Enablers Release 4 TCM option AIN00243 controls AIN Service Enablers T_Busy and T_No_Answer triggers and T-Answer event functionality and must be in the ON state if it is desired.

Service Enablers Release 4 Collect Info SOC option AIN00244 controls the AIN Service Enablers Collect_Information message processing functionality and must be in the ON state if it is desired.

Service Enablers Release 4 OHD Esc ICM SOC option AIN00245 controls the AIN Service Enablers Escape OHD Intercom for Intercom Calls functionality and must be in the ON state if it is desired.

Service Enablers Release 5 OnePlus Pfx SOC option AIN00251 controls AIN Service Enablers One_Plus_Prefix trigger functionality and must be in the ON state if it is desired.

Service Enablers Release 5 Spfd Cxr Pfx SOC option AIN00252 controls the AIN Service Enablers Specified_Carrier trigger functionality and must be in the ON state if it is desired.

Service Enablers Release 5 Intnl Pfx SOC option AIN00253 controls AIN Service Enablers International trigger functionality and must be in the ON state if it is desired.

Service Enablers Release 5 OperSvcs Pfx SOC option AIN00254 controls the AIN Service Enablers Operator Services trigger functionality and must be in the ON state if it is desired.

Service Enablers Release 5 Offer call SOC option AIN00255 controls the AIN Service Enablers Escape OHD Intercom for CENTREX functionality and must be in the ON state if it is desired.

Service Enablers Release 6 BRI MDN DpTxt SOC option AIN00261 controls the delivery of DisplayText information to terminating ISDN BRI agents and must be in ON state when DisplayText for BRI is desired.

> ***Note:*** Option AIN00008 that controls DisplayText processing functionality must be in the ON state in order to process the DisplayText information. When only option AIN00261 (NA012) is in the ON state and option AIN00008 is in the IDLE state, the DisplayText information is not processed and no DisplayText information is displayed on the terminating BRI agent's CPE.

Service Enablers Release 11 Upgrade Bundle SOC option AIN00310 Controls various functionalities in NA018. This must be in ON state if desired.

11.2 Summary of AIN SOC options and controlled functionality

AIN functionality has been grouped into various SOC options that control the activation of components of the AIN product on the SSP.

Table 259 Summary of SOC options and SOC controlled functionality

SOC Option	Option Name	Option Type	Release
AIN00002	Essentials	State	NA004
Controls the activation of AIN software in an office			
AIN00006	Call Management	State	NA005

Table 259 Summary of SOC options and SOC controlled functionality

SOC Option	Option Name	Option Type	Release
Controls the AIN R01 triggers functionality Triggers: Off-Hook_Immediate Off-Hook_Delay Shared_Interoffice_Trunk N11 Specific_Digit_String Public_Feature_Code Customized_Dialing_Plan Automatic_Flexible_Routing Termination_Attempt			
AIN00007	Call Model Cntrl	Track	NA004
Track option associated with features brought forward to enhance AIN Essentials functionality.			
AIN00008	Display Services	State	NA005
Controls the Display Text for Terminating RES and MDC agents functionality.			
AIN00009	Services Supporting	Track	NA006
Track Option associated with features that provide support for services on AIN.			
AIN00010	Default Routing	State	NA004
Controls the AIN Default Routing functionality.			
AIN00011	SSP Svcs Enhcemnts	Track	NA005
Track Option associated with features delivered in NA005.			
AIN00015	Ntwk Srvcs Enhncmnts	Track	NA006
Track Option associated with features that enhances network services.			
AIN00018	ACB/AR Premium	State	NA004
Controls the ACB/AR enhanced functionality.			
AIN00022	Transltns simplifctn	Track	NA006
Track Option associated with features that enhances maintenance.			
AIN00026	Transltns simplifctn	State	NA007
Controls the AIN Response Translation Simplification functionality.			
AIN00027	Office Trigger Flex	Track	NA006
Track Option associated with the response translation enhancement feature.			

Table 259 Summary of SOC options and SOC controlled functionality

SOC Option	Option Name	Option Type	Release
AIN00210	Service Enablers	State	NA007
Controls the AIN Service Enablers Release 1 functionality introduced by the features AJ4099,AJ4102,AJ4103,AJ4104 and AJ4128. Triggers: Off-Hook_Immediate Off-Hook_Delay Shared_Interoffice_Trunk N11 Specific_Digit_String Public_Feature_Code Customized_Dialing_Plan Automatic_Flexible_Routing Termination_Attempt Messages: Info_Analyzed Call_Info_From_Resource Resource_Clear Close Termination_Notification Origination_Attempt Info_Collected O_Answer Termination_Attempt Analyze_Route Continue Disconnect Authorize_Termination Forward_Call Send_To_Resource Cancel_Resource_Event Send_Notification O_Called_Party_Busy Network_Busy O_Answer O_No_Answer Request_Report_BCM_Event		Events: EDP-R O_Called_Party_Busy EDP-R O_No_Answer EDP-R O_Answer Parameters: DestinationAddress ONoAnswerTimer EDPRequest EDPNotificationSRTParameterBlockCloseCause IPReturnBlock NotificationIndicator Others: Send_To_Resource/IP	
AIN00211	SE Counter - Office	Usage	NA008
Event usage counter which counts office-based messaging.			
AIN00212	SE Counter - NCR	Usage	NA008

Table 259 Summary of SOC options and SOC controlled functionality

SOC Option	Option Name	Option Type	Release
Event usage counter which counts subscription based messaging.			
AIN00220	Service Enablers R2	State	NA008
Controls the AIN Service Enablers Release 2 functionality introduced by the features AU2332, AF6762,AJ4505, AJ4595, AR2219, AQ1576, AR2259 and AF6850. Triggers: O_Called_Party_Busy O_No_Answer Specific_Feature_Code Messages: T_Busy T_No_Answer Events: EDP-R Network_Busy EDP-R T_Busy EDP-R T_No_Answer Parameters: AMAMeasure GenericAddress TNoAnswerTimer CarrierUsage GenericAddressList AmaMeasurement ClearCauseData BusyType GenericName Others: Toll-free Service on AIN Support for cellular trunks for the OffHook Delay trigger Digit string escape codes			
AIN00220	Service Enablers R2	State	NA009

Table 259 Summary of SOC options and SOC controlled functionality

SOC Option	Option Name	Option Type	Release
In addition to the NA008 functionality, this option controls the functionality introduced by features AF6961, AF7136, AF7140 and AU2613. This option supports the following message parameters for triggers and events: RedirectionInformation ForwardCallIndicator CallingPartyBGID NetworkSpecificFacilities Toll-free service support for 00Y codes			
AIN00220	Service Enablers R2	State	NA018
In addition to the NA009 functionality, this option controls the functionality introduced by feature GALGNPTFS. This option supports the following message parameter for triggers and events: GenericName ExtensionParameter (Note: AIN TFS for 800P Special Route Parameter in AnalyzeRoute response only.)			
AIN00230	Service Enablers R3	Track	NA009
Track option associated with AIN SE Release 3 Functionality that tracks the functionality introduced by features AU2632,AJ4999,AU2650,AF7246, AU2641, AU2731,AU2648, AU2561, AU2656,AU2653,AU2621 and AU2335. Attendant console support for office-wide triggers VAPN support for the Off_Hook_Delay and Customized_Dialing_Plan triggers SCCP 1K segmentation Messaging Enhancements AIN AMA Update/Update_Success TIID activation/deactivation Upgrades to the processing of the Send_Notification and Termination_Notification message Network Tools Enhancements Servord support for VDN Trigger Item Phase I AIN OMs			
AIN00231	SE R3 - GETS EACR	State	NA009
GETS enhanced alternate carrier routing functionality introduced by feature AU2681.			
AIN00240	SE R4 - Base	Track	NA010

Table 259 Summary of SOC options and SOC controlled functionality

SOC Option	Option Name	Option Type	Release
Track Option Associated with AIN SE Release 4 Functionality. This option tracks the functionality introduced by features AU2932,AU2903,AF7505, AU2813,AJ5132, AU2901 and AF7407. Network Tools Enhancements PRI Variant Support Encounter AIN triggers with NEL EACR Trunk Group Control TIID Phase 2 AIN AMA Messaging Enhancements Attendant Console STR Support AIN Evolution Phase 1 PRI FIE Expansion Update MWI AIN OMs			
AIN00241	SE R4 - ISDN IW	State	NA010
Controls the AIN SE Channel_SetUp_PRI trigger functionality introduced by feature AU2858.			
AIN00242	SE R4 - OTS	State	NA010
Controls the O_NOA and O_CPB trigger screening and customer group subscription to O_NOA and O_CPB trigger functionality introduced by feature AJ5123.			
AIN00243	SE R4 - TCM Control	State	NA010
Controls the T_Busy and T_No_Answer triggers and T_Answer event functionality introduced by features AJ5080 and AU2784.			
AIN00244	SE R4 - Collect Info	State	NA010
Controls the Collect_Information message processing functionality introduced by feature AJ5110.			
AIN00245	SE R4 - OHD Esc ICM	State	NA010
Controls the OHD Escape for Intercom Calls functionality introduced by feature AU2867.			
AIN00250	SE R5 - Base	Track	NA011

Table 259 Summary of SOC options and SOC controlled functionality

SOC Option	Option Name	Option Type	Release
Track option associated with AIN SE Release 5 functionality. This option tracks the functionality introduced by features AF7743,AU3156,AU3218, AU3386, AJ5018,AU3504,AU3222 and AU3201. Network Tools Enhancements AIN TFS - Flex/ANI Enhancement XA-Core Compliance of AIN - Phase I AIN AMA Secondary directory number subscription enhancement Messaging Enhancements and TCAP TRID management Attendant Console STR (Basic) Redirection interactions with Busy/NoAnswer triggers AIN OMs			
AIN00251	SE R5 - OnePlus Pfx	State	NA011
Controls the One_Plus_Prefix trigger functionality introduced by feature AJ5245.			
AIN00252	SE R5 - Spfd Cxr Pfx	State	NA011
Controls the Specified_Carrier trigger functionality introduced by feature AJ5245.			
AIN00253	SE R5 - Intnl Pfx	State	NA011
Controls the International trigger functionality introduced by feature AJ5245.			
AIN00254	SE R5 - OperSvcs Pfx	State	NA011
Controls the Operator_Services trigger functionality introduced by feature AJ5245.			
AIN00255	SE R5 - Offer Call	State	NA011
Controls the Offer Call message processing functionality introduced by feature AU3180.			
LOC00256	DNFEAT Expansion 128K	State	NA011
Controls the table DNFEAT expansion to use more than 32 767 entries; functionality introduced by feature AU3320.			
AIN00260	SE R6 Base	Track	NA012
Track option associated with AIN SE Release 6 functionality. This option tracks the functionality introduced by features 59006039, 59008267, 10202203, 10216514, 10206792, 10206878, and 59013251. Number of redirections limitation removal AIN line attribute response processing (provisioning) Network tools enhancements AIN equal access CAC dialing enhancements AIN Display Text for MADN AIN response processing DFIL log DCR interworking with AIN (Canadian market only) - NA013			

Table 259 Summary of SOC options and SOC controlled functionality

SOC Option	Option Name	Option Type	Release
AIN00261	SE R6 BRI MDN DpTxt	State	NA012
Control the NA012 AIN SE delivery of DisplayText parameter information to an ISDN BRI agents functionality introduced by feature 59006414.			
AIN00262	SE R6 MonChng HuntGr	State	NA012
Controls the NA012 AIN SE Monitor For Change for Hunt Group functionality introduced by feature 59006290.			
AIN00263	SE R6 ExtndRing Parm	State	NA012
Controls the NA012 AIN SE Extended Ringing Parameter functionality introduced by feature 59006320.			
AIN00270	AIN network tools support for NA013	Track	NA013
Track option associated with NA013 Base, and AIN network tools support for NA013 feature.			
AIN00271	SE R7 Create_Call	State	NA013
State option associated with Create_Call feature.			
AIN00272	SE R7 OCM METT	State	NA013
State option associated with METT in OCM feature.			
AIN00060	DCR Interworking	Track	NA013
State option associated with AIN DCR Interworking feature.			
AIN00061	SE R7 OHD for PX Trunks	State	NA013
State option associated with OHD for PX Trunks feature.			
AIN00281	Term Resource	State	NA014
State option associated with Term Resource Available Trigger Processing.			
AIN00282	Carrier Usage	State	NA014
State option associated with Carrier Usage Parameter Processing			
AIN00291	Extended Ringing	State	NA015
State option associated with extended ringing to an external IP			
AIN00292	AIN SE R9 DP Converter	State	NA015
State option associated with DP-to-DTMF conversion for STR-IP and collect information.			

Table 259 Summary of SOC options and SOC controlled functionality

SOC Option	Option Name	Option Type	Release
AIN00293	SE R9 N11 LARP	State	NA015
Controls the NA015 AIN SE N11 LARP functionality introduced by feature 59022554.			
AIN00294	AIN SE R9 PFC Trig Admin	State	NA015
State option associated with SFC and PFC customer group subscriptions and option AINDENY.			
AIN00301	AIN SE 10 O_Disconnect Events	State	NA017
AIN00302	AIN SE R10 Timeout Event	State	NA017
AIN00303	AIN SE R10 Tstrc Tmr Enh	State	NA016
AIN00304	AIN SE NA016 Carrier STOR & STR Translations	State	NA016
AIN00305	AIN SE R10 Geo Loc Parm	State	NA017
AIN00306	AIN SE NA017 CTR in CPH (internal)	State	NA017
AIN00307	AIN SE R10 Trig Cap Incr	Usage	NA017
AIN00308	AIN SE R10 Scope Change Tool	State	NA017
AIN00309	AIN SE R10 OFCPFC Trig	State	NA017
AIN00310	AIN SE R11 Upgrade Bundle	State	NA018
State option associated with NA018 functionalities AIN Ping Ring, TrunkGroup Trigger, Trigger at Treatment, Hunt-LOD Interaction, TCAP-NUM Query.			
AIN00311	AIN SE R11 Pfx Pattern	State	NA018
AIN00312	AIN SE R11 CDP-800	State	NA018

Note 1: Software optionality control AIN00060: AIN DCR Interworking (Canadian market only) applies to this release, but is part of the Advanced Intelligent Network Essentials product:

Note 2: Software optionality control AIN00294 also controls the NA015 AIN SE PFC LARP functionality introduced by feature 59022554.

11.3 Order code relationships

The following figures depict the order code relationships for AIN Service Enablers and AIN Essentials.

Figure 36 AIN Service Enablers and AIN Essentials order code relationship

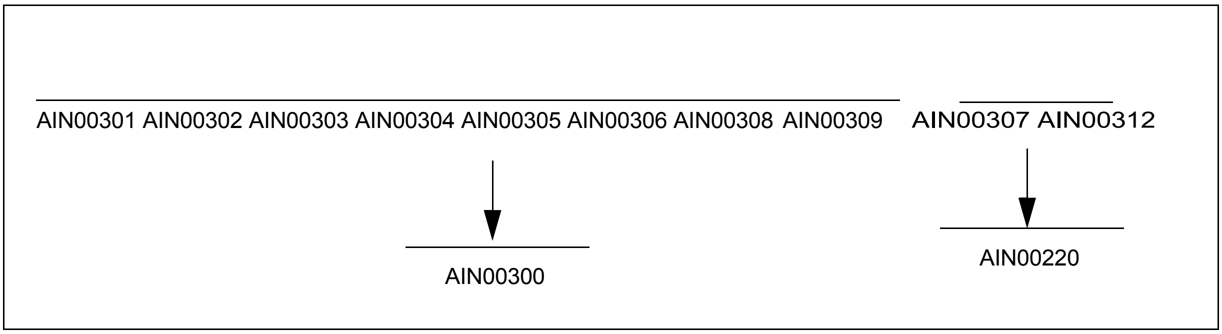


Figure 37 AIN Service Enablers and AIN Essentials order code relationship (continued)

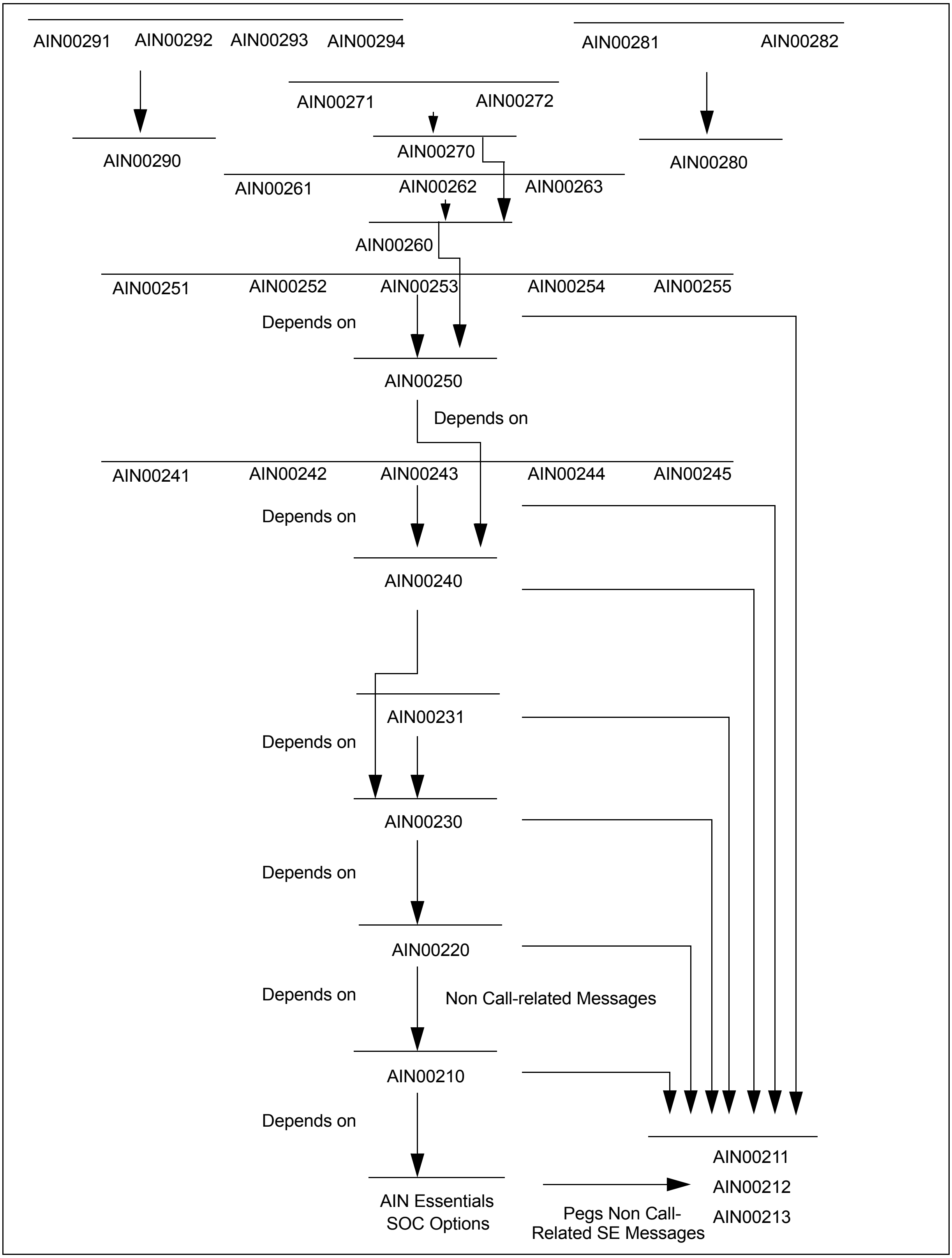
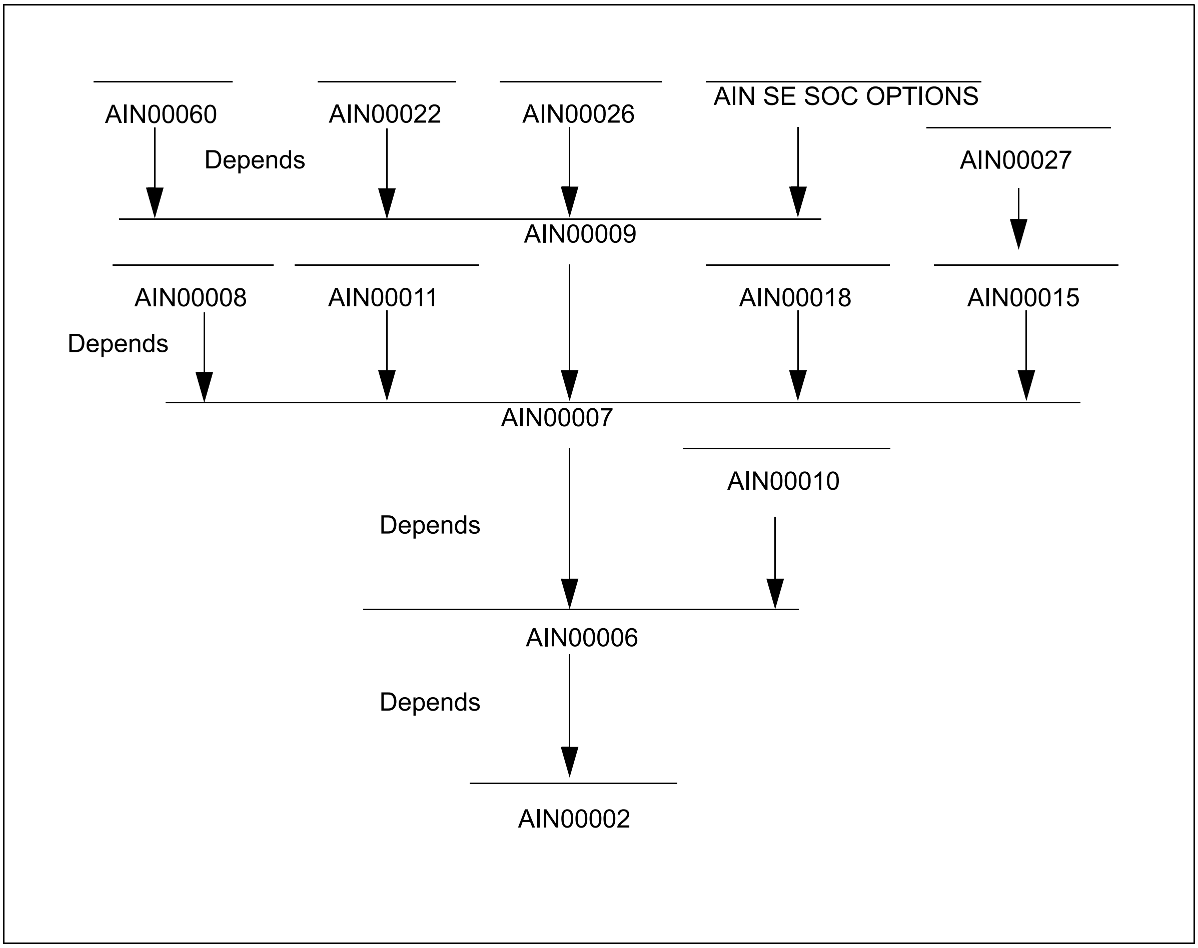


Figure 38 AIN Essentials order code relationship to AIN Service Enablers



11.4 SOC option status

To find out the status of the SOC options, issue the select group ain command in the SOC utility. See Figure 39 for an example. Figure 39 shows the AIN Service Enablers SOC options only. Other SOC options can appear, depending on your configuration.

Figure 39 Example of SOC option status

```
CI:
>soc
SOC:
select group AIN
GROUP:AIN
OPTION   NAME              RTU STATE  USAGE  LIMIT   UNITS  LAST_CHG
------   ----              --- -----  -----  -----   -----  --------
AIN00002 Essentials         Y   ON     -      -       -  00/06/26
AIN00006 Call Management    Y   ON     -      -       -  00/06/26
AIN00007 Call Model Cntrl   N   -      -      -       -  95/05/17 TRAK
AIN00008 Display Services   Y   ON     -      -       -  00/06/26
AIN00009 Services Supporting N  -      -      -       -  97/06/25 TRAK
AIN00010 Default Routing    Y   ON     -      -       -  00/06/26
AIN00011 SSP Svcs Enhcemnts N   -      -      -       -  97/06/25 TRAK
AIN00015 Ntwk Srvcs Enhncmnts N -      -      -       -  97/06/25 TRAK
AIN00018 ACB/AR Premium     Y   ON     -      -       -  00/06/26
AIN00022 Maint Enhancements N   -      -      -       -  97/06/25 TRAK
AIN00025 Pending Option     Y   -      -      -       -  00/06/26 PEND
AIN00026 Transltns simplifctn Y ON     -      -       -  00/06/26
AIN00027 Office Trigger Flex N  -      -      -       -  97/06/25 TRAK
AIN00060 DCR Interworking   N   -      -      -       -  00/03/06 TRAK
AIN00061 SE R7 OHD for PX Tru N IDLE   -      -       -  00/03/06
AIN00210 Service Enablers   Y   ON     -      -       -  00/06/26
AIN00211 SE Counter - Office Y  -    192 MONITOR    1AM  00/06/26
AIN00212 SE Counter - Subscr Y  -    265 MONITOR    1AM  00/06/26
AIN00213 SE Counter - NCR   Y   -      0 MONITOR    1AM  00/06/26
AIN00220 Service Enablers R2 Y  ON     -      -       -  00/06/26
AIN00230 Service Enablers R3 N  -      -      -       -  99/02/23 TRAK
AIN00231 SE R3 - GETS EACR  Y   ON     -      -       -  00/06/26
AIN00240 SE R4 - Base       N   -      -      -       -  99/02/23 TRAK
AIN00241 SE R4 - ISDN IW    Y   ON     -      -       -  00/06/26
AIN00242 SE R4 - OTS        Y   ON     -      -       -  00/06/26
AIN00243 SE R4 - TCM Control Y  ON     -      -       -  00/06/26
AIN00244 SE R4 - Collect Info Y ON     -      -       -  00/06/26
AIN00245 SE R4 - OHD Esc ICM Y  ON     -      -       -  00/06/26
AIN00250 SE R5 - Base       N   -      -      -       -  99/02/23 TRAK
AIN00251 SE R5 - OnePlus Pfx Y  ON     -      -       -  00/06/26
AIN00252 SE R5 - Spfd Cxr Pfx Y ON     -      -       -  00/06/26
AIN00253 SE R5 - Intnl Pfx  Y   ON     -      -       -  00/06/26
AIN00254 SE R5 - OperSvcs Pfx Y ON     -      -       -  00/06/26
AIN00255 SE R5 - Offer Call Y   ON     -      -       -  00/06/26
AIN00260 SE R6 Base         N   -      -      -       -  00/03/06 TRAK
AIN00261 SE R6 BRI MDN DpTxt Y  ON     -      -       -  00/06/26
AIN00262 SE R6 MonChng HuntGr Y ON     -      -       -  00/06/26
AIN00263 SE R6 ExtndRing Parm Y ON     -      -       -  00/06/26
AIN00270 SE R7 - Base       N   -      -      -       -  00/03/06 TRAK
AIN00271 SE R7 Create Call Ph Y ON     -      -       -  00/06/26
AIN00272 SE R7 OCM METT     Y   ON     -      -       -  00/06/26
AIN00281 SE R8 Term Resource Y  ON     -      -       -  00/06/26
```

Table 260 gives an explanation of the columns in Figure 39.

Table 260 SOC CI output legend

Item	Description	
Option	An alphanumeric code for the option.	
Name	The name of the option.	
RTU	Indicates the customer's right-to-use shown by "Y" for yes and "N" for no. The default value is "N". Requires the application of a password purchased from Nortel Networks. A value of "Y" indicates that the password has been purchased and applied.	
State	Indicates the state of the option as shown by "IDLE" or "ON". The default value is "IDLE". A "-" indicates Not Applicable.	
Usage	A counter that records the number of AIN messages sent and received.This allows the customer to be charged, based on the number of messages.	
Limit	DMS supports three types of usage limits:	
	Hard	These limits are enforced by SOC and usage approval requests. Requests which would exceed a hard limit are always refused.
	Soft	These limits are not enforced by SOC but do generate warnings when they are approached or exceeded.
	Monitored	These limits allow customers to pay based entirely on the amount of a service or resource they actually use. No actual limit is set and SOC records all usage for future billing reconciliation. Periodically, status reports can be generated which contain current usage information for the customer and Nortel Networks. These status reports are used for billing reconciliation.
Units	This field is the units of the usage (that is, 1AM is known as "One AIN Component of a TCAP message").	
Last_Chg	Shows the date of the last change in YY/MM/DD format.	
Note: "TRAK" indicates a track option. ">LIM" indicates a counter option.		

11.5 Assigning right to use for state SOC options

To turn on the SOC state options, passwords must be purchased from Nortel Networks and applied to the SOC options. Once applied to the appropriate SOC option, the right to use (RTU) field of that SOC option shows "Y". Contact your Nortel Networks marketing prime to purchase the password(s).

The password can be applied to an option by entering the following command from within the SOC CI directory:

```
>assign rtu <password> to <SOC option>
```

where <password> is the purchased password and <SOC option> is the corresponding SOC option. Once the password has been applied, the RTU field is set to “Y” for that SOC option.

To disable RTU, a different password is required.

11.6 Turning on event-usage SOC options

Event-usage options include AIN00211, AIN00212 and AIN00213. To turn on these SOC options, passwords must also be purchased from Nortel Networks and applied to them. Once applied, the RTU field of that SOC event option shows “Y”, and Limit field is shows “Monitored”. Contact your Nortel Networks marketing prime to purchased the password(s).

The password can be applied to an option by entering the following command from within the SOC CI directory:

```
>assign limit <limit> <password> to <SOC Option>
```

where <limit> is “MONITORED” or “0”, <password> is the purchased password and <SOC option> is the corresponding SOC option. Once the password has been applied, the RTU field is set to “Y” and the limit is set to “MONITOR” for that SOC option.

11.7 Toggling state SOC options to ON and IDLE

Once the RTU field shows “Y”, SOC state options can be toggled from “ON” to “IDLE” as required. To toggle a SOC option to “ON”, enter the following command from within the SOC utility:

```
>assign state on to <SOC option>
```

where <SOC option> is the corresponding SOC option.

Ensure that the option dependency requirements are taken into consideration when changing an option to the “ON” state. Options should always be changed to the “ON” state in the following order:

- AIN00002
- AIN00006
- AIN00008, AIN00010, AIN00018 or AIN00026
- AIN00210

- AIN00220
- AIN00231
- AIN00241, AIN00242, AIN00243, AIN00244 or AIN00245
- AIN00251, AIN00252, AIN00253, AIN00254 or AIN00255
- AIN00261, AIN00262 or AIN00263
- AIN00271, or AIN00272
- AIN00281, or AIN00282
- AIN00291, AIN00292, AIN00293 or AIN00294
- AIN00301, AIN00302, AIN00303, AIN00304, AIN00305, AIN00306, AIN00307, AIN00308, AIN00309, or AIN00312

Also, the event usage counter options, AIN00211, AIN00212 and AIN00213, should be set to “Monitored limit” before state option AIN00210 is turned on.

See Figure 40 on page 422 for the an example of changing option AIN00002 to the “ON” state.

> ***Note:*** AIN00007, AIN00009, AIN00011, AIN00015, AIN00022, AIN00027, AIN00060, AIN00211, AIN00212, AIN00213, AIN00230, AIN00240, AIN00250, AIN00260, and AIN00270 do not have states and cannot be changed.

Figure 40 Transition SOC option ON

```
CI:
>soc
SOC:
>assign state on to ain00002
Done.
>select option ain00002

GROUP:AIN
OPTION   NAME                 RTU STATE  USAGE  LIMIT  UNITS LAST_CHG
------   ----                 --- -----  -----  -----  ----- --------
AIN00002 Essentials           Y   ON     -      -      -     96/05/27
```

To transition a SOC option to “IDLE”, enter the following command from within the SOC utility:

```
>assign state idle to <SOC option>
```

where <SOC option> is the corresponding SOC option.

Ensure that the option dependency requirements are taken into consideration when changing an option to the “IDLE” state. Options should always be changed to the “IDLE” state in the following order:

- AIN00301, AIN00302, AIN00303, AIN00304, AIN00305, AIN00306, AIN00307, AIN00308, AIN00309, or AIN00312
- AIN00291, AIN00292, AIN00293 or AIN00294
- AIN00271 or AIN00272
- AIN00261, AIN00262 or AIN00263
- AIN00251, AIN00252, AIN00253, AIN00254 or AIN00255
- AIN00241, AIN00242, AIN00243, AIN00244 or AIN00245
- AIN00231
- AIN00220
- AIN00210
- AIN00008, AIN00010, AIN00018 or AIN00026
- AIN00006
- AIN00002

A warning that describes the impact of the change is generated for each ON-to-IDLE transition and a confirmation is requested. See Figure 41 on page 424 for details.

> ***Note:*** AIN00007, AIN00009, AIN00011, AIN00015, AIN00022, AIN00027, AIN00211, AIN00212, AIN00213, AIN00230, AIN00240, AIN00250, AIN00260, and AIN00270 do not have states and cannot be changed.

Figure 41 Transition SOC option IDLE

```
CI:
>soc
SOC:
>assign state idle to ain00006
This transition will disable AIN R0.1 Triggers for all current
and future AIN subscribers.
Confirm state change of option AIN00006 to state IDLE
by entering the textual option name:
>call mgmnt
Done.
>select option ain00006

GROUP:AIN
OPTION    NAME                 RTU STATE  USAGE  LIMIT  UNITS LAST_CHG
------    ----                 --- -----  -----  -----  ----- --------
AIN00006  Call Mgmnt           Y   IDLE   -      -      -     96/05/27
```

11.8 AIN SOC options for NA007

AIN Service Enablers NA007 functionality, summarized below, is enabled through SOC option AIN00210.

- essential functionality from AIN Essentials
- O_Called_Party_Busy, O_No_Answer and O_Answer events
- Send_To_Resource / IP

This SOC option must be ON before you toggle the NA008 AIN Service Enablers AIN00220 SOC option to ON.

AIN Service Enablers remains inactive while the AIN00210 SOC option is in the “IDLE” state. Once the “Right To Use” field has been set to “Y” by applying the appropriate password, the AIN00210 SOC option can be changed between the “IDLE” and “ON” states.

While the STATE is in “IDLE”, a call proceeds as if it never encountered the AIN Service Enablers event. This allows the operating company to provision AIN Service Enablers prior to activation. The TRAVER CI tool displays provisioned AIN Service Enablers triggers, but it also displays a message indicating that the AIN00210 SOC option is idle and continues processing.

Ensure that the following option dependency requirements are taken into consideration when changing an option to the “ON” state. Options should be changed to the “ON” state in the following order:

- AIN00002
- AIN00006
- AIN00210

Also, the event usage options AIN00211, AIN00212 and AIN00213, should be set to “Monitored limit” before state option AIN00210 is turned on.

To transition the AIN00210 SOC option to the “ON” state, enter the following command while in the SOC CI directory:

```
>assign state on to ain00210
```

To verify the STATE, enter:

```
>select option ain00210
```

The terminal screen should appear as shown in Figure 42.

Figure 42 Assigning state “ON” to AIN00210

```
CI:
>soc
SOC:
>assign state on to ain00210
DONE
>select option ain00210

GROUP:AIN
OPTION    NAME                  RTU STATE  USAGE  LIMIT  UNITS LAST_CHG
------    ----                  --- -----  -----  -----  ----- --------
AIN00210  Service Enablers        Y   ON       -      -      - 96/08/25
```

To return the STATE to “IDLE” enter to following command while in the SOC utility:

```
>assign state idle to ain00210
```

To verify the STATE, enter:

```
>select option ain00210
```

The terminal screen should appear as shown in Figure 43 on page 426.

Figure 43 Assigning state “IDLE” to AIN00210

```
CI:
>soc
SOC:
>assign state idle to ain00210
This transition will disable AIN R0.2 Triggers for all current
and future AIN subscribers.
Confirm state change of option AIN00210 to state IDLE
by entering the textual option name:
>service enablers
Done.
>select option ain00210

GROUP:AIN
OPTION   NAME                RTU STATE  USAGE  LIMIT  UNITS LAST_CHG
------   ----                --- -----  -----  -----  ----- --------
AIN00210 Service Enablers      Y IDLE       -      -      - 96/08/25
```

11.8.1 ON-to-IDLE impact messages

The warning message in Section 11.8.1.1 is displayed before allowing SOC Option AIN00210 to be toggled from ON-to-IDLE state. The warning message is necessary because ON-to-IDLE state transitions disable the associated controlled AIN Service Enablers call processing functionality.

11.8.1.1 Warning message

```
SERVICE AFFECTING: This transition will disable all
AIN R0.2 Triggers for all current and future AIN
subscribers.
```

11.9 AIN SOC features for NA008

AIN Service Enablers NA008 functionality is enabled through SOC option AIN00220.

- Network_Busy, T_Busy and T_No_Answer events
- O_Called_Party_Busy, O_No_Answer and Specific_Feature_Code triggers
- support for cellular trunks for the Off-Hook Delay trigger
- Toll-free service (GR-2892) on AIN
- digit string escape codes
- additional message parameters, including AMAMeasure, AMAMeasurement, ClearCauseData, GenericAddress, GenericAddressList, and GenericName.

Table 261 on page 427 summarizes the SOC order codes that are available with NA008 AIN Service Enablers.

Table 261 NA008 SOC order codes

Order code	Order name	Option type	Limit type	Units
AIN00211	AIN Service Enablers Counter - Office	Event-Usage (See Note 1)	Monitored (See Note 2)	1AM (See Note 3)
AIN00212	AIN Service Enablers Counter - Subscr	Event-Usage (See Note 1)	Monitored (See Note 2)	1AM (See Note 3)
AIN00213	AIN Service Enablers Counter - NCR	Event-Usage (See Note 1)	Monitored (See Note 2)	1AM (See Note 3)
AIN00220	AIN Service Enablers R2	State	N/A	N/A
Note 1: Once this order code has been activated it cannot be deactivated. ***Note 2:*** MONITORED is the only supported LIMIT ***Note 3:*** The unit 1AM represents "One AIN Component of a TCAP Message".				

> ***Note:*** New and upgraded message parameters that are available through SOC option AIN00220 apply to both AIN Service Enablers messages and AIN Essentials messages.

The warning message in Section 11.8.1.1 on page 426 is displayed before allowing SOC Option AIN00210 to be toggled from the ON-to-IDLE state. The warning message is necessary because ON-to-IDLE state transitions disable the associated AIN Service Enablers controlled call processing functionality.

11.9.1 Warning message

```
SERVICE AFFECTING: This transition will disable all
AIN Service Enablers Release 2 and Toll-Free Service
on AIN functionality for all current and future
subscribers.
```

11.10 AIN SOC features for NA009

The following AIN Service Enablers NA009 functions are enabled through SOC option AIN00210:

- enhancements to O_No_Answer trigger and event interaction with:
  - — PTS trunks
  - — 3WC
- NEL-VFG interaction enhancements

The following AIN Service Enablers NA009 functions are enabled through SOC option AIN00220:

- support the following incoming response message parameters:
  - RedirectionInformation
  - ForwardCallIndicatior
  - CallingPartyBGID
  - NetworkSpecificFacility
- support the NetworkSpecificFacility outgoing response message parameters
- toll-free service support for 00Y codes

The following AIN Service Enablers NA009 functions are tracked through SOC option AIN00230. This means that once base NA009 AIN Service Enablers software is purchased and installed, the following functions are available automatically.

- attendant console support for office-wide triggers
- VAPN support for the Off_Hook_Delay and Customized_Dialing_Plan triggers
- SCCP segmentation
- messaging enhancements to support the introduction of additional messages and the upgrade of current message parameters
- billing enhancements to improve real time performance and prepare for future functionality
- upgrades to the processing of the Send_Notification and Termination_Notification message
- network tools upgrades to permit easier exchange of data between TRAVER and TSTQuery
- additional operational measurements (OM)
- phase 1 of service administration evolution
- a new history data block (HDB) called HUGE
- trigger upgrades, including support the following response message parameters:
  - CalledPartyID
  - RedirectingPartyID

The following AIN Service Enablers NA009 function is enabled through SOC option AIN00231: alternate carrier routing enhancements.

Table 262 summarizes the SOC order codes that are available with NA009 AIN Service Enablers.

Table 262 NA009 SOC order codes

Order code	Order name	Option type
AIN00230	AIN Service Enablers R3	Tracked_State
AIN00231	AIN SE R3 - GETS EACR	State

The warning message in Section 11.10.1 is displayed before allowing SOC Option AIN00231 to be toggled from ON-to-IDLE state:

11.10.1 Warning message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 3 Enhanced ACR functionality
for all current and future AIN subscribers.
```

11.11 AIN SOC features for NA010

The NA010 functionality are controlled under AIN00240, AIN00241, AIN00242, AIN00243, AIN00244 and AIN00245.

Order code AIN00240, AIN SE R4 - Base option tracks the following:

- AIN SE Network Tools Enhancements
- AIN SE Update TIID
- AINSE TIID Phase 2
- AIN SE Update MWI
- AIN SE AMA
- AIN SE Msg Enhancements
- AIN SE Attendant Console STR Support
- AIPRI FIE Expansion
- AIN SE Platform Enhancements
- AIN SE R4 SOC

Order code AIN00241, AIN SE R4 - ISDN IW optionalizes the AIN SE PRI Channel SetUp Trigger.

Order code AIN00242, AIN SE R4 - OTS optionalizes the AIN SE O_NOA and O_CPB trigger screening and customer group subscription.

Order code AIN00243, AIN SE R4 - TCM Control optionalizes the AIN SE T_Busy and T_No_Answer Triggers and the T_Answer Event functionality.

Order code AIN00244, AIN SE R4 - Collect Info optionalizes the AIN SE Collect Information Message Processing functionality.

Order code AIN00245, AIN SE R4 - OHD Esc ICM optionalizes the AIN SE Escape OHD Intercom for Intercom Calls functionality.

11.11.1 Order Codes

Table 263 summarizes the 6 new order codes that are created by this feature.

Table 263 NA010 SOC Order Codes

Order Code	Order Name	Option Type
AIN00240	AIN SE R4 - Base	Tracked_State
AIN00241	AIN SE R4 - ISDN IW	State
AIN00242	AIN SE R4 - OTS	State
AIN00243	AIN SE R4 - TCM Control	State
AIN00244	AIN SE R4 - Collect Info	State
AIN00245	AIN SE R4 - OHD Esc ICM	State

The following warning messages are displayed before allowing an SOC Options change from the ON-to-IDLE state. The warning message is necessary because the ON-to-IDLE state transition disables the associated controlled AIN SE call processing functionality.

11.11.1.1 AIN00241 Warning Message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 4 Channel_Setup_PRI trigger
functionality for all current and future AIN
subscribers.
```

11.11.1.2 AIN00242 Warning Message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 4 OTS functionality for all
current and future AIN subscribers.
```

11.11.1.3 AIN00243 Warning Message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 4 TCM triggers and events
functionality for all current and future AIN
subscribers.
```

11.11.1.4 AIN00244 Warning Message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 4 Collect_Information.
message processing functionality for all current and
future AIN subscribers.
```

11.11.1.5 AIN00245 Warning Message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 4 OHD Esc ICM functionality
for all current and future AIN subscribers.
```

11.11.2 Interactions

The NA010 SOC options have some interactions with the DMS SSP. See Section 4.21 “TRAVER” on page 291.

11.12 AIN SOC features for NA011

In NA011, Nortel Networks packages AIN Service Enablers in one base order code and five optional order codes. The base order code is AIN00250 and is a track option. The optional order codes are AIN00251, AIN00252, AIN00253, AIN00254 and AIN00255 and are state options.

Order code AIN00250, AIN SE R5 - Base tracks the following:

- AIN SE network tools enhancements
- AIN SE XA-CORE compliance of AIN - Phase I
- AIN SE AMA
- AIN SE Msg enhancements
- AIN SE attendant console STR (basic)
- AIN SE R5 SOC

Order code AIN00251, AIN SE R5 - OnePlus Pfx, optionalizes the One_Plus_Prefix functionality.

Order code AIN00252, AIN SE R5 - Spfd Cxr Pfx. optionalizes the Specified_Carrier functionality.

Order code AIN00253, AIN SE R5 - Intnl Pfx, optionalizes the International functionality.

Order code AIN00254, AIN SE R5 - OperSvcs Pfx, optionalizes Operator_Services functionality.

Order code AIN00255, AIN SE R5 - Offer Call, optionalizes Offer_Call message processing functionality.

11.12.1 Order Codes

Table 263 summarizes the six order codes that are available with NA011AIN Service Enablers product release.

Table 264 NA010 SOC Order Codes

Order Code	Order Name	Option Type
AIN00250	AIN SE R5 - Base	Tracked_State
AIN00251	AIN SE R5 - OnePlus Pfx	State
AIN00252	AIN SE R5 - Spfd Cxr Pfx	State
AIN00253	AIN SE R5 - Intnl Pfx	State
AIN00254	AIN SE R5 - OperSvcs Pfx	State
AIN00255	AIN SE R5 - Offer Call	State

11.12.2 SOC ON-to-IDLE warning messages

The following warning messages are displayed before the NA011 SOC options are toggled from the ON to the IDLE state. The warning messages warn that the state transition disables the associated AIN Service Enablers functionality.

11.12.2.1 AIN00251 warning message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 5 One_Plus_Prefix trigger
functionality for all current and future AIN
subscribers.
```

11.12.2.2 AIN00252 warning message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 5 Specified Carrier
functionality for all current and future AIN
subscribers.
```

11.12.2.3 AIN00253 warning message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 5 International triggers and
events functionality for all current and future AIN
subscribers.
```

11.12.2.4 AIN00254 warning message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 5 Operator Services
functionality for all current and future AIN
subscribers.
```

11.12.2.5 AIN00255 warning message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 5 Offer Call message
processing functionality for all current and future
AIN subscribers.
```

11.13 AIN SOC features for NA012

In NA012, Order code AIN00250, AIN SE R5 -Base, tracks the following activity: Redirection interactions with Busy/NoAnswer triggers.

In NA012, Nortel Networks packages AIN Service Enablers in one base order code and three optional order codes. The base order code is AIN00260 and is a track option. The optional order codes AIN00261, AIN00262 and AIN00263 are state options.

Order code AIN00260, AIN SE R6 - Base tracks the following activities:

- AIN on Tome - number of redirections limitation removal (59006039)
- AIN line attribute response processing (provisioning) (59008267)
- network tools enhancements (SR10202203)
- AIN equal access CAC dialing enhancements (SR10216514)
- AIN Display Text for MADN (SR10206783)
- AIN response processing DFIL log (SR10206878)

Order code AIN00261, AIN SE R6 - -BRI MDN DpTxt, optionalizes the delivery of parameter DisplayText information to ISDN BRI agent functionality.

Order code AIN00262, AIN SE R6 - MonChng HuntGr. optionalizes the Monitor For Change for Hunt Group functionality.

Order code AIN00263, AIN SE R6 - ExtndRing Parm, optionalizes the Extended Ringing Parameter for Send_To_Resource functionality.

11.13.1 Order codes

Table 265 summarizes the six order codes that are available with NA012 AIN Service Enablers product release.

Table 265 NA012 SOC order codes

Order Code	Order Name	Option Type
AIN00260	AIN SE R6 Base	Tracked_State
AIN00261	AIN SE R6 BRI MDN DpTxt	State

Table 265 NA012 SOC order codes (Continued)

Order Code	Order Name	Option Type
AIN00262	AIN SE R6 MonChng HuntGr	State
AIN00263	AIN SE R6 ExtndRing Parm	State

11.13.2 SOC ON-to-IDLE warning messages

The following warning messages are displayed before the NA012 SOC options are toggled from the ON to the IDLE state. The warning messages indicate that the state transition disables the associated AIN Service Enablers functionality.

11.13.2.1 AIN00261 warning message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 6 BRI DisplayText
functionality for all current and future subscribers.
```

11.13.2.2 AIN00262 warning message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 6 Monitor For Change for
Hunt Groups functionality for all current and future
subscribers.
```

11.13.2.3 AIN00263 warning message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 6 Extended Ringing
functionality for all current and future subscribers.
```

11.14 AIN SOC features for NA013

In NA013, software optionality order code AIN00260, AIN SE R6 -Base, tracks the following activity: DCR Interworking with AIN.

Nortel Networks packages AIN Service Enablers in one base order code and two optional order codes. The base order code is AIN00270 and is a track option. Optional order codes AIN00271 and AIN00272 are state options.

- Order code AIN00271, AIN SE R7 - Create_Call
- Order code AIN00272, AIN SE R7 - OCM METT
- Order code AIN00060, AIN DCR Interworking

  Note: SOC AIN00060 is part of the Advanced Intelligent Network Essentials product, NA013 release.

- Order code AIN00061, SE R7 OHD for PX Tru

11.14.1 Order codes

Table 265 summarizes the order codes that are available with NA013 AIN Service Enablers product release.

Table 266 NA013 SOC order codes

Order Code	Order Name	Option Type
AIN00270	AIN SE R7 AIN Nettools support for NA013	Tracked_State
AIN00271	AIN SE R7 Create_Call	State
AIN00272	AIN SE R7 Multiple extended TCAP transactions (METT) in OCM	State
AIN00060	AIN DCR Interworking	Tracked_State
AIN00061	SE R7 OHD for PX Tru	State

11.14.2 SOC ON-to-IDLE warning messages

The following warning messages are displayed before the NA013 SOC options are toggled from the ON to the IDLE state. The warning messages indicate that the state transition disables the associated AIN Service Enablers functionality.

11.14.2.1 AIN00271 warning message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 7 Create_Call functionality
for all current and future subscribers.
```

11.14.2.2 AIN00272 warning message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 7 Multiple extended TCAP
transactions (METT) in the OCM functionality for all
current and future subscribers.
```

11.14.2.3 AIN00061 warning message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 7 AIN OHD in PX Trunks
functionality for all current and future subscribers.
```

11.15 AIN SOC features for NA014

Nortel Networks packages AIN Service Enablers in two optional order codes. Optional order codes AIN00281 and AIN00282 are state options.

- Order code AIN00281, AIN SE R8 - Term Resource
- Order code AIN00282, AIN SE R8 - Carrier Usage

11.15.1 Order codes

The following table summarizes the order codes that are available with NA014 AIN Service Enablers product release.

Table 267 NA014 SOC order codes

Order Code	Order Name	Option Type
AIN00281	AIN SE R8 Term Resource	State
AIN00282	AIN SE R8 Carrier Usage	State

11.16 AIN SOC features for NA015

Nortel Networks packages AIN Service Enablers in four optional order codes:

- Order code AIN00291, AIN SE R9 - External STR-ER
- Order code AIN00292, AIN SE R9 - DP Converter
- Order code AIN00293, AIN SE R9 - N11 LARP
- Order code AIN00294, AIN SE R9 - PFC Trig Admin

11.16.1 Order codes

The following table summarizes the order codes that are available with NA015 AIN Service Enablers release.

Table 268 NA015 SOC order codes

Order Code	Order Name	Option Type
AIN00291	AIN SE R9 - External STR-ER	State
AIN00292	AIN SE R9 - DP Converter	State
AIN00293	AIN SE R9 - N11 LARP	State
AIN00294	AIN SE R9 - PFC Trig Admin	State

11.16.2 SOC ON-to-IDLE warning messages

The following warning messages are displayed before the NA015 SOC options are toggled from the ON to the IDLE state. The warning messages indicate that the state transition disables the associated AIN Service Enablers functionality.

11.16.2.1 AIN00291 warning message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 9 External STR-ER
functionality for all current and future subscribers.
```

11.16.2.2 AIN00292 warning message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 9 DPConverter Paramerter
Support functionality for all current and future
subscribers.
```

11.16.2.3 AIN00293 warning message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 9 N11 LARP functionality for
all current and future subscribers.
```

11.16.2.4 AIN00294 warning message

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 9 PFC Trig Admin
functionality for all current and future subscribers.
```

11.17 AIN SOC features for NA016

Nortel Networks packages AIN Service Enablers in four optional order codes:

- Order code AIN00303, AIN SE R10 - TSTRCTimer Enchancement
- Order code AIN00304, AIN SE R10 - Carrier STOR & STR Translations

11.17.1 Order codes

The following table summarizes the order codes that are available with NA016 AIN Service Enablers release.

Table 269 NA016 SOC order codes

Order Code	Order Name	Option Type
AIN00303	AIN SE R10 - TSTRCTimer Enh	State
AIN00304	AIN SE R10 - Carrier SOTR & STR Translations	State

11.17.2 SOC ON-to-IDLE warning messages

The following warning messages are displayed before the NA016 SOC options are toggled from the ON to the IDLE state. The warning messages indicate that the state transition disables the associated AIN Service Enablers functionality.

11.17.2.1 AIN00303 warning message

SERVICE AFFECTING: This transition will disable AIN Service Enablers Release 10 TSTRCTimer Parameter Support functionality for all current and future subscribers.

11.17.2.2 AIN00304 warning message

SERVICE AFFECTING: This transition will disable AIN Service Enablers Release 10 Carrier STOR & STR Translations functionality for all current and future subscribers.

11.18 AIN SOC features for NA017

Nortel Networks packages AIN Service Enablers in five optional order codes:

- Order code AIN00301, AIN SE R10 - O_Disconnect Event
- Order code AIN00302, AIN SE R10 - Timeout Event
- Order code AIN00305, AIN SE R10 - Geo Loc Parm
- Order code AIN00306, AIN SE R10 - CTR in CPH (internal)
- Order code AIN00307, AIN SE R10 - Tri Cap Incr
- Order code AIN00308, AIN SE R10 - Scope Change Tool
- Order code AIN00309, AIN SE R10 - OFCPFC Trigger

11.18.1 Order codes

The following table summarizes the order codes that are available with NA017 AIN Service Enablers release.

Table 270 NA017 SOC order codes

Order Code	Order Name	Option Type
AIN00301	AIN SE R10 - O_Disconnect	State
AIN00302	AIN SE R10 - Timeout	State
AIN00305	AIN SE R10 - Geo Loc Parm	State
AIN00306	AIN SE R10 - CTR in CPH (internal)	State
AIN00307	AIN SE R10 - Tri Cap Incr	Usage
AIN00308	AIN SE R10 - Scope Change Tool	State
AIN00309	AIN SE R10 - OFCPFC Trigger	State

11.18.2 SOC ON-to-IDLE warning messages

The following warning messages are displayed before the NA017 SOC options are toggled from the ON to the IDLE state. The warning messages indicate that the state transition disables the associated AIN Service Enablers functionality.

11.18.2.1 AIN00301 warning message
SERVICE AFFECTING: This transition will disable AIN Service Enablers Release 10 O_Disconnect Requested Event functionality for all current and future subscribers.

11.18.2.2 AIN00302 warning message
SERVICE AFFECTING: This transition will disable AIN Service Enablers Release 10 Timeout Event functionality for all current and future subscribers.

11.18.2.3 AIN00305 warning message
SERVICE AFFECTING: This transition will disable AIN Service Enablers Release 10 Geo Loc Parm functionality for all current and future subscribers.

11.18.2.4 AIN00306 warning message
SERVICE AFFECTING: This transition will disable AIN Service Enablers Release 10 Connect2Resource functionality for all current and future subscribers.

11.18.2.5 AIN00308 warning message
SERVICE AFFECTING: This transition will disable AIN Service Enablers Release 10 Scope Change Tool functionality for all current and future subscribers. Confirm state change of option AIN00308 to state IDLE by entering the textual option name: >SE R10 Scope Chg Tool, Done.

11.18.2.6 AIN00309 warning message
SERVICE AFFECTING: This transition will disable AIN Service Enablers Release 10 Office PFC Trigger functionality for all current and future subscribers. Confirm state change of option AIN00309 to state IDLE by entering the textual option name.

11.19 AIN SOC features for NA018

Nortel Networks packages AIN Service Enablers in three optional order codes:

- AIN00310: AIN SE R11 Upgrade Bundle. This SOC controls various NA018 functionalities:
  - AIN Ping Ring
  - TrunkGroup Trigger
  - Trigger at treatment
  - Hunt-LOD Interaction
  - TCAP-NUM Query
- AIN00311: AIN NA18. AIN SE R11 Pfx Pattern is the new AIN SOC option introduced to control the ESCPRFX and ESCDIG functionality.

When SOC AIN00311 is in the IDLE state, criteria checking is not performed.

- AIN00312: AIN SE R11 CDP-800 trigger interworking. This option controls the precedence between E800/800P and CDP trigger.

11.19.1 Order codes

The following table summarizes the order codes that are available with NA018 AIN Service Enablers release.

Table 271 NA018 SOC order codes

Order Code	Order Name	Option Type
AIN00310	AIN SE R11 Upgrade Bundle	State
State option associated with NA018 functionalities AIN Ping Ring, TrunkGroup Trigger, Trigger at Treatment, Hunt-LOD Interaction, TCAP-NUM Query.		
AIN00311	AIN SE R11 Pfx Pattern	State
AIN00312	AIN SE R11 CDP-800	State

11.19.2 SOC ON-to-IDLE warning messages

The following warning messages are displayed before the NA018 SOC options are toggled from the ON to the IDLE state. The warning messages indicate that the state transition disables the associated AIN Service Enablers functionality.

11.19.2.1 AIN00310 warning message

SERVICE AFFECTING: This transition will disable AIN Service Enablers Release 11 Upgrade Bundle functionality for all current and future subscribers.

11.19.2.2 AIN00311 warning message

SERVICE AFFECTING: This transition will disable AIN Service Enablers Release 11 Pfx Pattern functionality for all current and future subscribers.

11.19.2.3 AIN00312 warning message

SERVICE AFFECTING: This transition will disable AIN Service Enablers Release 11 CDP-800 functionality for all current and future subscribers.

11.20 Counters

AIN Service Enablers has three counters that count the AIN components within a TCAP message. The countable AIN components are dependent on the state of the AIN SOC options.

The counters are pegged by sending or receiving the applicable AIN messages. The counters cannot be modified or reset by Nortel Networks or the operating company personnel. The counters are viewable with table SOCOPT, the SOC

CI. See Section 11.4 “SOC option status” on page 418 and Section 11.21 “PACK report output” on page 444.

The counters count all applicable incoming and outgoing messages as shown in Table 272.

Table 272 Counters

Counter type	Order code	Applicable triggers, events and messages
Office-based	AIN00211	Triggers • Specific_Digit_String • N11 • Network_Busy • O_Called_Party_Busy • O_No_Answer • O_Answer
		Messages • Call_Info_From_Resource • Close • Resource_Clear • Termination_Notification • Analyze_Route • Continue • Disconnect • Send_To_Resource • Cancel_Resource_Event • Call_Info_To_Resource • Send_Notification • Request_Report_BCM_Event • Collect_Information

Table 272 Counters (Continued)

Counter type	Order code	Applicable triggers, events and messages
Subscription-based	AIN00212	Triggers • Automatic_Flexible_Routing • Customized_Dialing_Plan • International • O_Called_Party_Busy • O_No_Answer • Off-hook_Delay • Off-hook_Immediate • One_Plus_Prefix • Operator_Services • Public_Feature_Code • Shared_Interoffice_Trunk • Specified_Carrier • Specific_Feature_Code • Termination_Attempt • Channel_Setup_PRI • T_Busy • T_No_Answer
		Events • Network_Busy • O_Answer • O_Called_Party_Busy • O_No_Answer • T_Busy • T_No_Answer • T_Answer

Table 272 Counters (Continued)

Counter type	Order code	Applicable triggers, events and messages
		Messages • Analyze_Route • Authorize_Termination • Call_Info_To_Resource • Call_Info_From_Resource • Resource_Clear • Termination_Notification • Cancel_Resource_Event • Close • Continue • Disconnect • Forward_Call • Request_Report_BCM_Event • Send_Notification • Send_To_Resource • Collect_Information • Offer_Call
NCR-based	AIN00213	AIN Essentials and AIN Service Enablers NCR-based messages: • ACG • ACG_Overflow • ACG_Global_Ctrl_Restore • ACG_Global_Ctrl_Restore_Success • Monitor_for_Change • Monitor_Success • Status_Reported • Update_Data • Update_Request • Update • Update_Success

Note: Triggers that can be subscribed on an office basis or on a line basis are counted as line based.

11.21 PACK report output

Figure 44 on page 445 provides an example of the output from the PACK report showing state, usage, and combination options.

Figure 44 Example of PACK report output

```
>SOC
>soc
SOC:
>select all pack
Packed report written to file BNR_LAB_LOAD$SSR on device SFDEV
>listsf all
BNR_LAB_LOAD$SSR

  [snip]

>print BNR_LAB_LOAD$SSR
SOC OPTION STATUS SUMMARY
DS9VG26_LOAD
CDN0B008
970815

  [snip]


AIN00002 Y O 970312
SOCOPT16 Y O 122846 MONITORED 0 970312
AIN00006 Y O 970312
AIN00007 N - 970312 TRAK
AIN00008 Y O 970312
AIN00009 N - 970312 TRAK
AIN00010 Y O 970312
AIN00011 N - 970312 TRAK
AIN00015 N - 970312 TRAK
AIN00018 Y O 970312
AIN00022 N - 970312 TRAK
AIN00026 Y O 970312
AIN00027 N - 970312 TRAK
AIN00210 Y O 970312
AIN00211 Y - 1000 MONITORED 0 970304
AIN00212 Y - 3234 MONITORED 0 970304
AIN00213 Y - 23 MONITORED 0 970304
AIN00220 Y O 970312
AIN00230 N - 970312 TRAK
AIN00231 Y O 970312
AIN00240 N - 980108
AIN00241 Y O 980108
AIN00242 Y O 980108
AIN00243 Y O 980108
AIN00244 Y O 980108
AIN00245 Y O 980108
AIN00250 N - 980604 TRAK
AIN00251 Y 0 980604
AIN00252 Y 0 980604
AIN00253 Y 0 980604
AIN00254 Y 0 980604
AIN00255 Y 0 980604
AIN00260 N - 980604 TRAK
AIN00261 Y 0 980604
AIN00262 Y 0 980604
AIN00263 Y 0 980604

[snip]

S6PCS9EANQBFSCDVDCVA
```

Table 273 provides explanation for the PACK report output in Figure 44 on page 445.

Table 273 PACK report legend

Item	Example	Description
State option	AIN00210, AIN00220, AIN00231	order code, rtu, state ("I" is IDLE and "O" is ON), and last change date
Event-usage option	AIN00211, AIN00212, AIN00213	order code, rtu, state (not applicable), usage, limit, hi-water (see Note), and last change date
Combination (dual) option	SOCOPT16	order code, rtu, state ("I" is IDLE and "O" is ON), usage, limit, hi-water (see Note), and last change date
Checksum	Last item in the PACK report	20 character checksum to prevent tampering with the values within the pack report
Note: This field is the maximum value the usage can ever reach and it is only applicable for resource usage options.		

11.22 SOC restrictions and limitations

See Section 20.17 "SOC restrictions and limitations" on page 689.

11.23 TRAVER output of SOC options

When an SOC option is IDLE and is supported through TRAVER, the tool operates as though the SOC option is ON, but displays a message that indicates the option is IDLE. There are three SOC options where TRAVER behavior is changed as a result of ON and IDLE status: AIN00002, AIN00006, and AIN00210. Table 274 on page 447 provides an example of a TRAVER output with SOC option AIN00002 set to IDLE.

Table 274 TRAVER output with AIN00002 SOC option IDLE

```
>traver l 7224012 96211179 b
TABLE IBNLINES
HOST 00 0 03 03 0 DT STN IBN 7224012 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
HOST 00 0 03 03 0 AIN AIN AINGRP1
TABLE CUSTSTN
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP NIL
TABLE TRIGGRP
AINGRP1 ORIGATT
 . OFFHKIMM $ INFO1
Trigger R01 OFFHKIMM is applicable to individual POTS line.
Trigger R01 OFFHKIMM: Trigger is active.
   (Use AINCI CHANGESTATE command to alter activation state.)
 .  . TABLE TRIGINFO
 .  . INFO1 EVENT TCAP R01 SS7 AINJAZZ DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE LENFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 6137224012 6137224012 SSNONLY (AINTEST) $
AIN Orig Attempt TDP: trigger criteria met,
NOT querying the database, AIN00002 SOC Option is IDLE.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 9 POTS Y
NCOS PRELIM XLA name is NIL. Go to next XLA name.
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y N 1 Y POTS Y N DOD N 80 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT FR01 0 613 PKDK L613 TSPS 0 NIL NILSFC NILLATA 0 NIL NIL 00 N $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
```

Table 274 TRAVER output with AIN00002 SOC option IDLE (Continued)

```
TABLE STDPRTCT
PKDK ( 1) (65021) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 621 621 L NP 0 613 621
AIN Info Collected TDP: no subscribed trigger.
AIN Info Analyzed TDP: no subscribed trigger.
TABLE TOFCNAME
613 621
TABLE DNINV
613 621 1179 L HOST 00 0 09 19
AIN Term Attempt TDP: no subscribed trigger.
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 LINE                  6136211179         ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

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

Table 275 on page 449 shows an example of TRAVER output with AIN00006 SOC option IDLE.

Table 275 TRAVER output with AIN00006 SOC option IDLE

```
>traver l 7224012 96211179 b
TABLE IBNLINES
HOST 00 0 03 03 0 DT STN IBN 7224012 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
HOST 00 0 03 03 0 AIN AIN AINGRP1
TABLE CUSTSTN
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP NIL
TABLE TRIGGRP
AINGRP1 ORIGATT
 . OFFHKIMM $ INFO1
Trigger R01 OFFHKIMM is applicable to individual POTS line.
Trigger R01 OFFHKIMM: Trigger is active.
   (Use AINCI CHANGESTATE command to alter activation state.)
.  . TABLE TRIGINFO
 .  . INFO1 EVENT TCAP R01 SS7 AINJAZZ DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE LENFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 6137224012 6137224012 SSNONLY (AINTEST) $
AIN Orig Attempt TDP: trigger criteria met,
NOT querying the database, AIN00006 SOC Option is IDLE.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 9 POTS Y
NCOS PRELIM XLA name is NIL. Go to next XLA name.
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y N 1 Y POTS Y N DOD N 80 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT FR01 0 613 PKDK L613 TSPS 0 NIL NILSFC NILLATA 0 NIL NIL 00 N $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
```

Table 275 TRAVER output with AIN00006 SOC option IDLE (Continued)

```
TABLE STDPRTCT
PKDK ( 1) (65021) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 621 621 L NP 0 613 621
AIN Info Collected TDP: no subscribed trigger.
AIN Info Analyzed TDP: no subscribed trigger.
TABLE TOFCNAME
613 621
TABLE DNINV
613 621 1179 L HOST 00 0 09 19
AIN Term Attempt TDP: no subscribed trigger.
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N

+++ TRAVER: SUCCESSFUL CALL TRACE +++


AIN Orig Attempt TDP: trigger criteria met,
NOT querying database, AIN00006 SOC Option is IDLE.


DIGIT TRANSLATION ROUTES

1 LINE                  6136211179         ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

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

11.23.1 TRAVER for PFC and SFC customer group subscription

TRAVER reflects the routing data of a simulated AIN Service Enablers call. When the SOC (AIN00294) is IDLE, PFC and SFC group subscription verification is performed, but a warning message is displayed stating that an actual call will not trigger when SOC AIN00294 is in IDLE state. IWhen the SOC is ON (that is, the call proceeds to trigger) such a message will not be displayed. An example of a TRAVER with SOC IDLE is given in Table 276, and an example of a traver with SOC ON is given in Table 277. Precedence is given to individually subscribed triggers over group based triggers.

Table 276 Example of SOC idle

```
>Traver l 4671022 B333 B
TABLE IBNLINES
HOST 01 1 02 14 0 DT STN RES 4671022 403 416_PUB_403 L416_LATA1_400 416 $
TABLE LINEATTR
403 1FR NONE NT 0 10 NILSFC 0 NIL 00 416_PUB_403 L416_LATA1_400 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
416_PUB_403 NSCR 416 PUB TSPS Y RESG416 0 0 $ $
TABLE RATEAREA
L416_LATA1_400 L416 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
RESG416 AIN AIN TIID
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
RESG416 0 0 0 RNCOS $
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
RESG416 NXLA RX416 RESGSTAR 0 RES
TABLE DIGCOL
RES specified: RES digit collection
NCOS FEAT XLA name is NIL. Go to next XLA name.
TABLE IBNXLA: XLANAME RESGSTAR
RESGSTAR 333 FTR 3 AIN IMMED
AIN Trigger: An actual call would not trigger on customer group
             subscription as SOC option AIN00294 is IDLE
Checking AIN SFC Trigger Items as SFC is compatible with current call
.  . TABLE CUSTTIID
 .  . RESG416 4 SAM_SFC ON
 .  . TABLE TRIGITM
 .  . 4 SAM_SFC SFC (DG B333) $ ULK EVENT R02 SS7 AINPOP $
 .  .  . TABLE C7GTTYPE
 .  .  . AINPOP ANSI7 6 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINPOP 4164671022 4164671022 PCSSN (SIMTOOL_RTESET SIMTOOL3 0) $ SSN
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
```

Table 276 Example of SOC idle

```
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++

AIN Trigger: An actual call would not trigger on customer group
             subscription as SOC option AIN00294 is IDLE

AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information


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

Table 277 Example of when SOC is ON

```
>Traver l 4671022 B333 B
TABLE IBNLINES
HOST 01 1 02 14 0 DT STN RES 4671022 403 416_PUB_403 L416_LATA1_400 416 $
TABLE LINEATTR
403 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 416_PUB_403 L416_LATA1_400 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
416_PUB_403 NSCR 416 PUB TSPS Y RESG416 0 0 $ $
TABLE RATEAREA
L416_LATA1_400 L416 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
TABLE OFCVAR
RESG416 AIN AIN TIID
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
RESG416 0 0 0 RNCOS $
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
RESG416 NXLA RX416 RESGSTAR 0 RES
TABLE DIGCOL
RES specified: RES digit collection
NCOS FEAT XLA name is NIL. Go to next XLA name.
TABLE IBNXLA: XLANAME RESGSTAR
Checking AIN SFC Trigger Items as SFC is compatible with current call
```

Table 277 Example of when SOC is ON

```
RESGSTAR 333 FTR 3 AIN IMMED
 .  . TABLE CUSTTIID
 .  . RESG416 4 SAM_SFC ON
.  . TABLE TRIGITM
 .  . 4 SAM_SFC SFC (DG B333) $ ULK EVENT R02 SS7 AINPOP $
 .  .  . TABLE C7GTTYPE
 .  .  . AINPOP ANSI7 6 $
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE IBNFEAT
 .  .  . TABLE C7GTT
 .  .  . AINPOP 4164671022 4164671022 PCSSN (SIMTOOL_RTESET SIMTOOL3 0) $
SSN
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information


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

12 Datafilling for the general office

This chapter describes the general office datafill that is required to engineer the AIN Service Enablers SSP under the following headings:

- parameters to be engineered
- parameters with adequate default values
- AMA related extension blocks
- datafilling for treatments
- datafilling for CUSTSMDR
- datafilling table TCAPTRID

> ***Note:*** Table TCAPTRID is obsolete. Identifier pools (IDPL) automatically allocate transaction and component identifiers for all applications.

12.1 Parameters to be engineered

The following parameters must be datafilled to engineer the central office for AIN services:

- AIN_NUM_EXT_BLKS
- AIN_NUM_00_PARA_EXT_BLKS
- AIN_NUM_01_00_EXT_BLKS
- AIN_NUM_PROCESSING_EXT_BLKS
- AIN_NUM_TERM_NOTIF_EXT_BLKS
- CSR_PRU_POOL2_SIZE
- CSR_SUBRU_POOL2_SIZE
- CSR_SUBRU_POOL4_SIZE
- NCCB
- NO_OF_HIS_CONTROL_BLKS
- NO_OF_HIS_DATA_BLKS, subfields X2, X3 and X4

- NO_OF_X_LARGE_FTR_DATA_BLKS
- NO_OF_MEDIUM_FTR_DATA_BLKS
- NO_OF_SMALL_FTR_DATA_BLKS
- NUM_RC_EXT_BLKS
- NO_OF_MEDIUM_EXT_BLKS
- NO_OF_X_LARGE_EXT_BLKS
- NO_OF_HUGE_EXT_BLKS
- NUMBER_OF_DITM_EXTENSION_BLOCKS
- NUMPERMEXT

The following parameters are not used directly by AIN. However, as of the NA012 product release, AIN affects these parameters.

- CFD_EXT_BLOCKS
- CFW_EXT_BLOCKS
- CFZ_EXT_BLOCKS
- NO_OF_FTR_XLA_BLKS

All the parameters in this section have corresponding OMs that can be reviewed to assess the appropriate values to set these parameters. See the EXT OM group in NTP 297-8003-814, *NA DMS-100 Operational Measurements Reference Manual*, for a detailed description of the OMs.

For customers in the United States, the parameters in this section are preset by Nortel Networks. See Section 12.1.25 “Parameters preset by Nortel Networks for the United States market” on page 472.

Starting with the NA012 product release, calculation of the increases in the number of certain data blocks uses an estimate of “the number of TOME calls”. The following sections describe the affected data blocks. A TOME call is one where at least one virtual agent is created. See the following figure for how to estimate this number.

Figure 45 TOME estimation

Number of TOME calls
in setup (pre-answer) phase

=

Number of simultaneous calls setups which
terminate on subscribers to TCM triggers
(TAT, T_Busy, or T_No_Answer)

+

Number of simultaneous call setups which
encounter a PODPATTR or LARP SDS trigger

+

Number of call setups where an OCM NEL is armed

+

Number of simultaneous call setups from
OCPB/ONoAnswer subscribers which
subsequently undergo redirection.

Note: a “redirection” includes going through DISA or Virtual Facility Group (VFG)

12.1.1 AIN_NUM_EXT_BLKS

Parameter AIN_NUM_EXT_BLKS controls the number of extension blocks available for use by AIN software. The values are as follows:

- range of values: 0–32767
- default value: 0

An AIN extension block uses 365 words of data store. The value of parameter AIN_NUM_EXT_BLKS must be greater than 0 and should be based on the number of AIN subscribers (line, trunk group, customer group, or office). When over-provisioned, some allocated data store is not used. When under-provisioned, some MDC PVN calls are sent to no software resource treatment.

A cold restart is required when the value of parameter AIN_NUM_EXT_BLKS is decreased.

Starting with the NA015 product release, increase the AIN_NUM_EXT_BLKS by the potential number of calls that can be simultaneously involved in AIN Extended Ringing for STR-IP.

Note: Although this parameter is named for the AIN 0.0 Primer Services, that are being retired in NA011, it is still used in the context of MDC PVN Services.

12.1.2 AIN_NUM_00_PARA_EXT_BLKS

Parameter AIN_NUM_00_PARA_EXT_BLKS defines the pool size of AIN_00_PARA_EXT_BLKs available in the office. The values are as follows:

- range of values: 0–32767
- default value: 0

A cold restart is required when the value of this parameter is decreased.

Each AIN_00_PARA_EXT_BLK contains 18 words of memory.

When over-provisioned, some allocated data store is not used. When under-provisioned, some AIN Primer calls are sent to no software resource treatment.

12.1.3 AIN_NUM_01_00_EXT_BLKS

Parameter AIN_NUM_01_00_EXT_BLKS defines the size of the pool of AIN_01_00_EXT_BLKs available for calls involving triggers to AIN Service Enablers, AIN Essentials, and MDC PVN Services applications. The values are as follows:

- range of values: 0–32767
- default value: 0

A cold restart is required when the value of this parameter is decreased.

Each AIN_01_00_EXT_BLK contains 7 words of memory. The value of this parameter should be based on the number of call condense blocks in the office (NCCBS) and the fraction of calls that are likely to encounter triggers in AIN Service Enablers, AIN Essentials, and MDC PVN Services. When over-provisioned, some allocated data store will not be used. When under-provisioned, some calls that encounter AIN Service Enablers, AIN Essentials, and MDC PVN Services route to no software resource treatment.

12.1.4 AIN_NUM_PROCESSING_EXT_BLKS

Parameter AIN_NUM_PROCESSING_EXT_BLKS specifies the number of AIN processing extension blocks allowed in the office. The values are as follows:

- range of values: 0–32767
- default value: 0

A COLD RESTART is required when the value of this parameter is decreased.

Each AIN processing extension block contains 365 words of memory. The value of this office parameter should be based on the number of AIN subscribers (line, trunk group, customer group, DN, or office). When over-provisioned, some data store allocated is not used. When under-provisioned, AIN calls are sent to no software resource treatment.

12.1.5 CFD_EXT_BLOCKS

Parameter CFD_EXT_BLOCKS saves call forwarding history on a call that undergoes an IBN call.

Starting with the NA012 product release, parameter CFD_EXT_BLOCK is snapshotted by the OCM NEL when the OCM NEL is received after the call undergoes IBN call forwarding.

Increase the number of CFD_EXT_BLOCKS to equal the number of OCM NELs simultaneously armed on calls that undergo IBN call forwarding before the NEL is armed.

The CFD_EXT_BLOCKS extension block requires 22 words of memory.

12.1.6 CFW_EXT_BLOCKS

Parameter CFW_EXT_BLOCK saves call forwarding history on a call that undergoes any type of call forwarding.

Starting with the NA012 product release, parameter CFW_EXT_BLOCK is snapshotted by the OCM NEL when the OCM NEL is received after the call undergoes any type of call forwarding.

Increase the number of CFW_EXT_BLOCKs to equal the number of OCM NELs simultaneously armed on calls that undergo any type of call forwarding before the NEL is armed.

The CFW_EXT_BLOCKS extension block requires 27 words of memory.

12.1.7 CFZ_EXT_BLOCKS

Parameter CFZ_EXT_BLOCK saves call forwarding history on a call that undergoes POTS call forwarding.

Starting with the NA012 product release, a CFZ_EXT_BLOCK is snapshotted by the OCM NEL when the OCM NEL is received after the call undergoes POTS call forwarding.

Increase the number of CFZ_EXT_BLOCKS to equal the number of OCM NELs simultaneously armed on calls that undergo POTS call forwarding before the NEL is armed.

The CFZ_EXT_BLOCKS extension block requires 22 words of memory.

12.1.8 AIN_NUM_TERM_NOTIF_EXT_BLKS

Parameter AIN_NUM_TERM_NOTIF_EXT_BLKS specifies the number of AIN Service Enablers SSP termination notification extension blocks allowed in the office. The values are as follows:

- range of values: 0–32767
- default value: 200

A cold restart is required when the value of this parameter is decreased.

Each AIN termination notification extension block contains 15 words of memory. The value of this office parameter should be based on the average number of simultaneous AIN calls, multiplied by the average number of send notification requests per AIN call. When over-provisioned, some data store allocated is not used. When under-provisioned, AIN Service Enablers SSP calls are sent to no software resource treatment.

12.1.9 CSR_PRU_POOL2_SIZE

See Section 12.3 “AMA-related extension blocks” on page 479.

12.1.10 CSR_SUBRU_POOL2_SIZE

See Section 12.3 “AMA-related extension blocks” on page 479.

12.1.11 CSR_SUBRU_POOL4_SIZE

See Section 12.3 “AMA-related extension blocks” on page 479.

12.1.12 NO_OF_FTR_XLA_BLKS

Parameter NO_OF_FTR_XLA_BLKS specifies the number of feature translation blocks available in the office.

For AIN calls, a feature translation block is allocated when a Send_To_Resource message is received from the SCP. The feature translation block is released when the resource is cleared.

Each feature translation block contains 230 words of memory. The values are as follows:

- range of values: 0–32767
- default value: 50

Starting with the NA012 product release, increase the number of NO_OF_FTR_XLA_BLKS to equal the number of redirected calls from subscribers to an O_CPB or O_NoAnswer trigger + the number of simultaneously armed OCM NELs where the call is redirected after the NEL is armed. This increase applies to calls in the setup (pre-answer phase).

This formula is conservative because a FTR_XLA_BLOCK could be counted twice when the OCM NEL is armed on a call from a subscriber to an O_CPB or O_NoAnswer trigger.

A cold restart is required when the value of this parameter decreases

Starting with the NA017 product release, the call that involves extended transaction, due to an open NEL arming a CPH event (e.g. Timeout, O_Disconnect, or O_Disconnect_Called) does not de-allocate the resources on the CPH virtual agents until the call is completed. So the feature translation blocks will also not be de-allocated. The number of allocated feature translation blocks should be increased for the potential number of calls that can simultaneously be involved in an extended transaction, due to an open NEL arming a CPH event.

12.1.13 NO_OF_HIS_CONTROL_BLKS

For AIN, the value of parameter NO_OF_HIS_CONTROL_BLKS should be set to the value of office parameter NCCBS in table OFCENG.

Each NO_OF_HIS_CONTROL_BLKS contains 43 words of memory. The values are as follows:

- range of values: 0–262144
- default value: 50

A cold restart is required when the value of this parameter is decreased.

The increase in NO_OF_HIS_CONTROL_BLKS = increase in the number of AIN HDBs + the increase in the number of AIN Response HDBs

Starting with the NA012 product release, increase the NO_OF_HIS_CONTROL_BLKS to equal the number of TOME calls in the setup phase + the number of redirections that occur after the first AIN trigger, on TOME calls in the setup phase.

Starting with the NA015 product release, increase the NO_OF_HIS_CONTROL_BLKS by the potential number of calls that can be simultaneously involved in AIN Extended Ringing for STR-I

Starting with the NA017 product release, the call that involves extended transaction, due to an open NEL arming a CPH event (e.g. Timeout, O_Disconnect, or O_Disconnect_Called) does not de-allocate the AIN HDB's until the call is completed. So the HCB's will also not be de-allocated. The number of allocated HCB's should be increased for the potential number of calls that can simultaneously be involved in an extended transaction, due to an open NEL arming a CPH event.

12.1.14 NO_OF_HIS_DATA_BLKS

Parameter NO_OF_HIS_DATA_BLKS specifies the number of regular, large, extra-large and huge history data blocks that are available. Only large, extra-large, and huge HDBs are currently used for AIN.

There are five different types of AIN history blocks:

Table 278

HDB Type	Size
AIN History Data block	extra-large
AIN Response History Datablock	huge
STR-IP HDB	large
Display Text HDB	extra-large
NEL HDB	large

Parameter NO_OF_HIS_DATA_BLKS has four fields: X1, X2, X3, and X4. X1 specifies the number of regular history data blocks. X2 specifies the number of large history data blocks. X3 specifies the number of extra-large history data blocks. X4 specifies the number of huge history data blocks.

The following list includes the size for each of the various history data blocks (including the range of values and the default values):

- regular HDBs are 38 words, including headers
- large HDBs are 82 words, including headers
- extra-large HDBs are 160 words, including headers
- huge HDBs are 256 words, including headers
- range of values is 0–655360 for each field
- default value for X1, 50
- default value for X2, 10
- default value for X3, 0
- default value for X4, 0

12.1.14.1 Provisioning guidelines - general

Parameter NO_OF_HIS_DATA_BLKS should be increased by the total number of AIN subscribers (individual, group, or office-based) in the office, regardless of AIN traffic. When office-based triggers are used, the number should be increased by NCCBS.

12.1.14.2 Provisioning guidelines for large HDBs

As a provisioning consideration for AIN Service Enablers, the number of large history data blocks should be further increased to accommodate calls involving the following activities:

- NELs
- Send_To_Resource connections
- SCP messages with parameter Generic Address List or ISUP IAM messages with parameter Generic Address

12.1.14.2.1 Processing next event lists For NEL processing, a large HDB is allocated when an SCP reply is received that contains a valid Request_Report_BCM_Event (RRBCME) component. The HDB is released once the TCAP transaction is closed, or a requested event is detected. In the worst case scenario, the HDB is released once the call is answered.

12.1.14.2.2 Send_To_Resource connections Calls that receive a valid Send_To_Resource message with parameter DestinationAddress, require an additional large HDB for each DMS switch the calls are routed through. This includes switches where the trigger is encountered, the final terminating switch linked to the IP and all intervening DMS switches. Calls involving an IP connection, release the HDB when the IP connection is cleared.

12.1.14.2.3 Number of Large HDBs A large HDB is allocated to store the multiple generic addresses involved on the call, from the time the parameter is received until the call is cleared.

The number of large HDBs should be increased by the number extra NP HDBs used:

Number of extra NP HDBs = the number of OCM NELs simultaneously armed on all calls.

Figure 46 Formula for increase in large HDBs

Increase in large HDBs = Number of OCM NELs simultaneously armed in office

The large HDBs extension block requires 82 words of memory.

Starting with the NA017 product release, the calls that involves extended transaction, due to an open NEL arming a CPH event (e.g. Timeout, O_Disconnect, or O_Disconnect_Called) does not de-allocate the large HDB until the call is completed. The number of allocated large HDB’s should be increased by twice the potential number of calls that can simultaneously be involved in an extended transaction, due to an open NEL arming a CPH event.

12.1.14.3 Provisioning guidelines for extra-large HDBs

One extra-large HDB is required for every link or trunk origination in the office that subscribes to AIN. These HDBs are allocated during call origination and released when the call is answered. The AIN HDB is not released for calls indicated in Table 279.

Table 279 AIN HDB released calls

		Termination					
		POTS	**RES**	**MF**	**ISUP**	**PX**	**PRI**
Originator	**POTS**	X		X			
	RES						
	MF	X		X	X	X	X
	ISUP			X	X	X	X
	PRI			X	X	X	

When patch PAT_AIN14 has been applied and AIN Service Enablers is active, line to line calls hold the HDB for the full duration of the call.

> **ATTENTION**
> When the office subscribes to AIN, this parameter value must be increased to accommodate every link or trunk origination in the office that subscribes to AIN and, therefore, needs to have an extra-large HDB. The HDB must have a value of 1 or greater.

A call that involves a connection to a local or remote IP does not de-allocate the extra-large HDB until the IP interaction has completed. The extra-large HDB is reallocated when armed originating call model events are detected and reported to the SCP.

For calls that terminate on an attendant console, AIN HDB is not released after answering a call by an attendant.

The number of extra-large HDBs should be increased to correspond to the number of calls that have already triggered. This number should be further increased when display text is activated. An extra-large HDB is required for each call receiving parameter Display Text in the authorize termination response terminating on a supported display text agent. The extra-large HDB is not released from the call until the call is disconnected. The value of the extra-large HDB must be greater than zero.

Number of extra AIN HDBs = number of simultaneous “TOME” calls simultaneously in the setup (pre-answer) stage.

SCP reply messages contain parameter generic address list (GAL), or ISUP IAM messages containing a generic address parameter (GAP) with the following types of address:

- dialed_number
- destination_number
- sup_failed_screen
- sup_not_screen
- completion_number
- Ported Number
- 800 Service Indicator

The number of extra large HDBs should be increased by the number of additional GAP HDB’s used.

Increase in number of GAP HDBs equals the sum of items 1, 2, and 3:

1. the number of simultaneous calls in setup (pre-answer) phase where the originator subscribes to OCPB or O_No_Answer triggers, and an AIN trigger response is received which includes a GenericAddress parameter, and subsequently the call is redirected, plus
2. the number of simultaneous calls in setup (pre-answer) phase where an AIN trigger response is received which includes a GenericAddress

parameter, and after that an OCM NEL is armed and then the call is redirected, plus

3. the number of incoming ISUP MBG calls in the setup (pre-answer) phase which arm an OCM NEL and which encounter subsequent call redirection.

Figure 47 Formula for increase in extra-large HDBS

Increase in extra-large HDBs =

Number TOME calls in setup phase

+

Number of redirections on MBG calls in setup phase after an OCM NEL is armed

+

Number of redirections on calls in setup phase after GenericAddress parm is received, and OCM NEL is armed or OCPB/ONoAnswer trigger subscribed.

The extra-large HDBs extension block requires 160 words of memory.

Starting with the NA017 product release, the calls that involves extended transaction, due to an open NEL arming a CPH event (e.g. Timeout, O_Disconnect, or O_Disconnect_Called) does not de-allocate the extra-large HDB until the call is completed. The number of allocated extra-large HDB's should be increased for the potential number of calls that can simultaneously be involved in an extended transaction, due to an open NEL arming a CPH event.

12.1.14.4 Provisioning guidelines for huge HDBs

The number of huge HDBs should be increased to correspond to the number of calls that have already triggered. This number should be further increased by the number of additional AIN Response HDBs. The huge HDB is not released from the call until the call is disconnected. The value of the huge HDB must be greater than zero.

Increase in number of AIN Response HDBs = the number of all redirections that occur on all "TOME" calls in the setup (pre-answer) phase, after the first AIN trigger. That is, the number of redirections that occur after both (1) a Virtual agent has been created, and (2) there has already been an AIN trigger or response.

The huge HDBs extension block requires 256 words of memory.

Figure 48 Formula for huge HDBs

Increase in huge HDBs	=	Number of redirections that occur after the first AIN trigger, on TOME calls in setup phase

12.1.15 NO_OF_X_LARGE_FTR_DATA_BLKS

Parameter NO_OF_X_LARGE_FTR_DATA_BLKS specifies the number of extra-large feature data blocks that are available.

The following provisioning guidelines apply to parameter NO_OF_X_LARGE_FTR_DATA_BLKS:

- the AIN feature allocates an extra-large FDB when trigger criteria checking passes and a query is pending
- the number of allocated extra-large feature data blocks in the AIN SSP should be increased by the number of calls subsequently engaged in an open dialogue with the SCP
- the FDB can be assumed to persist until the TCAP transaction is closed and the SCP response message is processed

  Note: Prior to release NA009, a large FDB was used for this purpose. Starting in release NA009, the use of the large FDB has been replaced by the extra-large FDB.

- the size is 128 words including headers

Starting with the NA015 product release, increase the NO_OF_X_LARGE_DATA_BLKS by the potential number of calls that can be simultaneously involved in AIN Extended Ringing for STR-IP.

Starting with the NA017 product release, the extra-large FDB’s will be allocated for the entire duration of the call for each RRBCME component arming a CPH event (e.g. Timeout, O_Disconnect, or O_Disconnect_Called) event. The number of allocated large FDB’s should be increased by twice the potential number of calls that can simultaneously be involved in an extended transaction, due to an open NEL arming a CPH event.

12.1.16 NO_OF_MEDIUM_FTR_DATA_BLKS

The number of allocated medium feature data blocks in the AIN SSP should be increased by the number of calls that can be simultaneously involved in an extended transaction, due to an open NEL. The number should be increased by the number of simultaneous calls in the ringing state with trigger O_No_Answer subscribed. The size of a medium feature data block is 23 words including headers.

Starting with the NA012 product release, an ainfi FDB is required on every TOME call. Increase the NO_OF_MEDIUM_FTR_DATA_BLKS to equal the number of TOME calls in the setup phase.

Each NO_OF_MEDIUM_FTR_DATA_BLKS extension block requires 26 words of memory.

12.1.17 NO_OF_SMALL_FTR_DATA_BLKS

The number of allocated small feature data blocks should be increased by the potential number of calls that can be simultaneously involved in a connection to an external IP (resulting from a Send_To_Resource operation with parameter DestinationAddress). This applies to the triggering office, any intermediate DMS switches, and the IP-connected DMS. The size of a small feature data block is 15 words including headers.

Starting with the NA012 product release, an ftr_traverse FDB is required on every TOME call. Increase the NO_OF_SMALL_FTR_DATA_BLKS to equal the number of TOME calls in the setup phase.

Starting with the NA015 product release, increase the NO_OF_SMALL_FTR_DATA_BLKS by the potential number of calls that can be simultaneously involved in AIN DPConversion (resulting from parameter DPConverter set to TRUE in CollectInfo message.

Each NO_OF_SMALL_FTR_DATA_BLKS extension block requires 18 words of memory

Starting with the NA017 product release, the small FDB’s will be allocated for the entire duration of the call for each RRBCME component arming a CPH event (e.g. Timeout, O_Disconnect, or O_Disconnect_Called) event. The number of allocated small FDB’s should be increased by twice the potential number of calls that can simultaneously be involved in an extended transaction, due to an open NEL arming a CPH event.

12.1.18 NUM_RC_EXT_BLKS

AIN calls associated with the following reply messages, use routing characteristics:

- Analyze_Route
- Send_To_Resource including parameter DestinationAddress
- Forward_Call

The recommended value for parameter NUM_RC_EXT_BLKS is the number of CCBs, multiplied by the percentage of traffic using routing characteristics. This percentage can increase due to AIN traffic. STR calls can use routing characteristics when connecting to an IP.

12.1.19 NO_OF_MEDIUM_EXT_BLKS

Parameter NO_OF_MEDIUM_EXT_BLKS specifies the number of medium extension blocks allowed in the office. The values are as follows:

- range of values: 0–32767
- default value: 16

A cold restart is required when the value of this parameter is decreased.

Each medium extension block requires 50 words of memory. AIN uses these extension blocks for error handling. They are allocated when an error is detected in the incoming message from the SCP. The extension blocks are released after the error message is sent to the SCP.

12.1.20 NO_OF_X_LARGE_EXT_BLKS

Parameter NO_OF_X_LARGE_EXT_BLKS defines the size of the pool of extra-large extension blocks that can be used by AIN calls, when dealing with messages less than or equal to 256 bytes. The values are as follows

- range of values: 0–32767
- default value: 16

A cold restart is required when the value of parameter NO_OF_X_LARGE_EXT_BLKS is decreased.

The extra-large extension block requires 200 words of memory.

The extra-large extension block parameter can be used for AIN calls that deal with UDT messages; that is, a TCAP portion that is no more than 256 bytes.

12.1.21 NO_OF_HUGE_EXT_BLKS

Parameter NO_OF_HUGE_EXT_BLKS defines the size of the pool of huge extension blocks, that can be used by AIN calls when dealing with messages larger than 256 bytes. Parameter NO_OF_HUGE_EXT_BLKS is similar to other office parameters for small, medium, large, and extra-large extension blocks. The values are as follows

- range of values: 0–32767
- default value: 16

A cold restart is required when the value of parameter NO_OF_HUGE_EXT_BLKS is decreased.

The huge extension block requires 400 words of memory.

The huge extension blocks parameter can be used for AIN calls that deal with XUDT messages and a TCAP portion of up to 610 bytes, the largest planned

AIN message that is supported. The limit of 610 bytes is applied to minimize processor time usage and memory waste. The limit of 610 bytes is based on current customer requirements and plans.

12.1.22 NUMPERMEXT

Parameter NUMPERMEXT is the number of Portextperm extension blocks. A Portextperm is used for each virtual agent:

- Starting with the NA012 product release, increase parameter NUMPERMEXT by the number of virtual agents created on all simultaneous calls in the setup (pre-answer) phase. This number is larger than the number of TOME calls, because some TOME calls have more than one virtual agent.
- The number of virtual agents created on an individual call can be counted by using the information in section **Section 12.1 , "Parameters to be engineered," on page 455.**
- For a rough guide to counting the number of simultaneous virtual agents on all call setups on a switch, see Figure 49.

Figure 49

Starting with the NA012 product release, compared to the previous release:

Increase in NUMPERMEXT =

Number of terminations on subscribers to TCM triggers on simultaneous calls setups

+

Number of PODPATTR or LARP SDS triggers encoutered on simultaneous call setups

+

Number of OCM NELs armed on simultaneous call setups

+

Number of redirections on all call setups *after* an OCM NEL is armed or one of the triggers above has occurred

+

Number of redirections on calls from OCPB/ONoAnswer subscriber.

Each NUMPERMEXT extension block requires 29 words of memory.

Starting with the NA017 product release, the Portextperm extension blocks will remain allocated for the entire duration of the Call when a CPH event (e.g. Timeout, O_Disconnect, or O_Disconnect_Called)is armed. The number of allocated Portextperm extension blocks should be increased by the potential number of calls that can simultaneously be involved in an extended transaction, due to an open NEL arming a CPH event.

12.1.23 NUMBER_OF_DITM_EXTENSION_BLOCKS

Starting with the NA012 product release, one DITM extension block is needed for every two virtual agents.

Parameter NUMBER_OF_DITM_EXTENSION_BLOCKS = the number of simultaneous calls in the setup phase where one virtual agent is created + the number of simultaneous calls in the setup phase where three virtual agents are created, and so on.

Because most TOME calls only have one virtual agent, increase the number of NUMBER_OF_DITM_EXTENSION_BLOCKS to equal parameter NUMPERMEXT.

Increase the number of NUMBER_OF_DITM_EXTENSION_BLOCKS to equal parameter NUMPERMEXT (that is, the number of the virtual agents).

Each NUMPERMEXT extension block requires 108 words of memory.

Starting with the NA017 product release, the DITM extension blocks will remain allocated for the entire duration of the call when a CPH event (e.g. Timeout, O_Disconnect, or O_Disconnect_Called) is armed. The number of allocated DITM extention blocks should be increased by the potential number of calls that can simultaneously be involved in an extended transaction, due to an open NEL arming a CPH event.

12.1.24 NCCB

Starting with the NA015 product release, an additional CCB per call is required to provide AIN Extended Ringing for STR-IP. This additional CCB is allocated as long as Extended Ringing is provided.

The number of allocated CCB is increased by the potential number of calls that can be simultaneously involved in AIN Extended Ringing for STR-IP

12.1.25 Parameters preset by Nortel Networks for the United States market

Nortel Networks's software systems engineering support group is responsible for presetting the parameters required to engineer a central office in the United States. The support group has developed an engineering model that is used to preset the parameter values. The engineering model is based on the following criteria:

- trunk size
- line size
- high or low MDC feature penetration

The software systems engineering support group monitors design activities within Nortel Networks and updates the model at every new software release. This process is offered as a service to customers to avoid them having to do detailed calculations for each central office.

12.1.25.1 How presets values are applied to a central office

Prior to an ONP, a tool called PARMMAIL automatically generates a list of all parameters for the new load. This report includes the default values for each parameter and the current switch values for existing parameters.

The correct preset model is determined when the office is initially provisioned and memory requirements are determined, based on the following criteria:

- software release
- office type
- number of lines
- number of trunks
- MDC penetration

The PARMMAIL tool uses the preset model to automatically set the requested value of each preset parameter to the appropriate value. The result is a file called DMOPRO that is downloaded to the central office during the ONP.

12.2 Parameters with adequate default values

The following office parameters come with adequate default values. Customers can change the value of these parameters as required.

- AIN_ALT_ROUTE_SEL
- AIN_MAX_SERIAL_TRIGGERS
- AIN_OFFICE_TRIGGRP
- AIN_O_NO_ANSWER_TRIGGER_TIMER
- AIN_O_NO_ANSWER_EVENT_TIMER
- AIN_T_NO_ANSWER_TRIGGER_TIMER
- AIN_T_NO_ANSWER_EVENT_TIMER
- AIN_TDISC_TIMER
- AIN_T1_TIMER
- AIN_TIMEOUT_TIMER
- AIN_TRIGGRP_DISABLED
- AIN_TSTRC_TIMER
- TRIGDIG_NUM_DGLTR_POOLS

12.2.1 AIN_ALT_ROUTE_SEL

Parameter AIN_ALT_ROUTE_SEL controls the route advance capability, when routing over trunk groups or carrier parameters received in an

Analyze_Route or Forward_Call response. The parameter consists of fields TRKGRP and CARRIER respectively:

- The TRKGRP subfield controls route advance capability when routing over a trunk group parameter and is referred to as the trunk option.
- The CARRIER subfield controls route advance capability when routing over a carrier parameter and is referred to as the carrier option.

The values for both subfields are as follows:

- ‘Y’ indicating that the option is enabled or ‘N’ indicating that the option is disabled
- a default value of ‘Y’

12.2.2 AIN_MAX_SERIAL_TRIGGERS

Parameter AIN_MAX_SERIAL_TRIGGERS determines the number of times that a call is allowed to trigger for each call leg. The values are as follows:

- range of values is 1 to 24
- default value is 6

The value chosen for this parameter should be based on the number of trigger instances that an agent can subscribe. Under-provisioning this parameter causes calls to route to treatment. Over-provisioning this parameter can cause resources to be unnecessarily consumed. Refer to section 19.10 in Volume 1 for details about the restrictions and limitations on Over-provisioning.

The serial trigger count is reset whenever a call is redirected due to an Analyze_Route response with parameter RedirectingPartyID, or due to a Forward_Call response being received from the SCP. In either case, a new call leg is initiated as the call is being redirected, and the serial trigger count resets to zero. A call can be redirected a total of five times.

12.2.3 AIN_OFFICE_TRIGGRP

Parameter AIN_OFFICE_TRIGGRP is used to subscribe to the trigger item data model, or to an AINGRP. The values are as follows:

- Range of values: AIN trigger group names (AINGRP) in TRIGGRP table or “TIID”
- Default value: NIL

Parameter AIN_OFFICE_TRIGGRP is used to subscribe to an AINGRP. To enable office wide subscriptions to the trigger item data model, parameter AIN_OFFICE_TRIGGRP is set to ‘TIID’—a reserved trigger group name that acts as a DMS trigger provisioning interface selector.

Note: Parameter AIN_OFFICE_TRIGGRP should only be modified during periods of low traffic.

12.2.4 AIN_O_NO_ANSWER_TRIGGER_TIMER

When an O_No_Answer trigger is detected, the T-ONoAnswer timer is activated. The value of parameter AIN_O_NO_ANSWER_TRIGGER_TIMER is used to determine when the timer expires. The value of the parameter specifies the number of seconds before the timer expires.

The value of the parameter can be set by the SCP through the Update message. The values are as follows:

- Range of values: 1 to 120 in increments of 1.
- Default value: 18

12.2.5 AIN_O_NO_ANSWER_EVENT_TIMER

When an event detection point-request (EDP-R) is armed by the Request_Report_BCM_Event (RRBCME) message, timer T-ONoAnswer is activated. When parameter ONoAnswerTimer is not present in the RRBCME message, the value of parameter AIN_O_NO_ANSWER_EVENT_TIMER is used to determine when the timer expires. The value of the parameter specifies the number of seconds before expiry of the timer. Bellcore document GR-1298-CORE, requires that a value for the expiry of the timer can be provisioned on an office-wide basis, therefore, an office parameter is used to provision this value. The values are as follows:

- range of values is 1 to 120 in increments of 1
- default value is 18

12.2.6 AIN_T_NO_ANSWER_EVENT_TIMER

When the T_No_Answer EDP-R is armed by an RRBCME message, timer T-TNoAnswer is activated. When parameter TNoAnswerTimer is not present in the RRBCME message the value of parameter AIN_T_NO_ANSWER_EVENT_TIMER is used by the AIN event processing logic for the associated call. The value of the parameter indicates the number of seconds before the timer expires. GR-1298 CORE Issue 3 requires that this timer value can be provisioned on an office-wide basis so table OFCENG is used to provision the value. The values are as follows:

- range of values is 1 to 120, in increments of 1
- default value is 18

For engineering parameters, see TR-533.

12.2.7 AIN_T_NO_ANSWER_TRIGGER_TIMER

The following section describes parameter AIN_T_No_Answer_Trigger_Timer.

12.2.7.1 Range of values

The parameter ranges from 1 to 120, in increments of 1. The default value is 18.

12.2.7.2 Description of parameter

This parameter was introduced in NA010. When trigger T_No_Answer is detected, timer T-TNoAnswer is activated. The value of parameter AIN_T_NO_ANSWER_TRIGGER_TIMER is used to determine when the timer expires. The value of the parameter specifies the number of seconds before expiry of the timer. The value of the parameter can be set by the SCP through the Update message.

12.2.7.3 Default value

Requirement R4-121 [106] in GR-1298-CORE, Issue 3, specifies an 18 second office-wide default value, for the expiry of timer T-ONoAnswer, therefore, the default value of parameter AIN_T_NO_ANSWER_TRIGGER _TIMER is 18 seconds.

12.2.7.4 PARM value

Not applicable when the feature is not activated.

12.2.7.5 Method of change activation

Changes to parameter AIN_T_NO_ANSWER_TRIGGER_TIMER are effective immediately.

12.2.7.6 Dependency

No tables are affected by this parameter.

12.2.7.7 Dump and restore

No reformats are required by the addition of parameter AIN_T_NO_ANSWER_TRIGGER_TIMER.

12.2.7.8 Memory requirements

Parameter AIN_T_NO_ANSWER_TRIGGER_TIMER uses 1 word of memory.

12.2.7.9 Verification

Parameter AIN_T_NO_ANSWER_TRIGGER_TIMER can be verified by performing the following tasks:

1. make an AIN call
2. detect trigger T_No_Answer
3. observe when timer T-TNoAnswer expires, resulting in an appropriate message (T_NOA TDP-Request) that is sent to the SCP

12.2.7.10 Consequences

Provisioning parameter AIN_T_NO_ANSWER_TRIGGER_TIMER can only be considered to be correct or incorrect in context to the AIN-based services being provided by the given SSP. Parameter AIN_T_NO_ANSWER_TRIGGER_TIMER is considered to be incorrectly provisioned when its value is such that the AIN-based services that rely on the value of parameter AIN_T_NO_ANSWER_TRIGGER_TIMER, did not behave as desired.

12.2.8 AIN_TDISC_TIMER

The SSP initiates timer IP Disconnect (TDISC) for an IP, after sending a FACILITY message with a cancelIPResource operation that requests the IP to disconnect. When this timer expires, the SSP clears the connection to the IP and notifies the SCP or adjunct. The values are as follows:

- range of values are 1 to 10, in units of one second
- default value is 4 seconds

Note: Compliant to requirement [238] of GR-1129, Issue 2.

12.2.9 AIN_T1_TIMER

Parameter AIN_T1_TIMER specifies the length of time in seconds that the SSP waits for a response from the off-board processor, after sending a query message. When no response is received in the time specified by this parameter, the call is routed to treatment. The values are as follows:

- range of values is 1–99
- default value is 3

Parameter AIN_T1_TIMER should be set to a value greater than the expected response time from the off-board processor. When this parameter is too low, some calls can be routed to treatment or default routing. When this parameter is set too high, resources such as extension blocks can be tied up unnecessarily when the off-board processor fails to respond.

12.2.10 AIN_TIMEOUT_TIMER

The AIN_TIMEOUT_TIMER parameter specifies the default Timeout timer value administered by the SSP. This value is used to setup the Timeout timer if the TimeoutTimer parameter is not provided in the SCP Request_Report_BCM_Event message requesting the Timeout event. The Timeout timer value specifies the number of seconds before expiry of the timer after speech path has been established. The range of the Timeout event timer is 1 to 86400 seconds.

The AIN_TIMEOUT_TIMER office parameter in table OFCENG contains the value to be loaded into the Timeout Timer.

1. In response to the PARMNAME prompt, enter AIN_TIMEOUT_TIMER. This is the name for the Timeout Event timer office parameter.
2. In response to the PARMVAL prompt, enter a value from 1 to 86400. The Default value is 300 seconds.

12.2.11 AIN_TRIGGRP_DISABLED

The AIN_TRIGGRP_DISABLED office parameter in table OFCOPT contains the state of the AIN trigger group subscription functionality. It is a read-only parameter and cannot be modified directly. AIN_TRIGGRP_DISABLED can only be changed using the DISABLE and ENABLE CI commands in the AIN trigger item transition tool (AINTITT) CI directory. See Section 15.9 “AIN trigger item transition tool” on page 523.

AIN_TRIGGRP_DISABLED can have one of the following values:

- ‘N’, indicating that agents can be subscribed to AIN using trigger groups
- ‘Y’, indicating that agents cannot be subscribed to AIN using trigger groups

The AINTITT DISABLE command sets office parameter AIN_TRIGGRP_DISABLED to ‘Y’, and the AINTITT ENABLE command sets it to ‘N’.

12.2.12 AIN_TSTRC_TIMER

The SSP initiates timer STR-Connection (TSTRC) for an STR connection, after receiving a CONNect from an IP. When this timer expires before the SSP receives a DISConnect or RELease COMplete message from the IP, the SSP clears the connection to the IP and notifies the SCP or adjunct. The values are as follows:

- range of values is 0 to 60 minutes, in increments of 1 minute
- default value is 6 minutes

> ***Note:*** Compliant to requirement [241] of GR-1129, Issue 2.

Refer to 11.4.2 for a description of TSTRC Timer operation.

12.2.13 TRIGDIG_NUM_DGLTR_POOLS

Parameter TRIGDIG_NUM_DGLTR_POOLS specifies the number of digilator pools to be allocated in table TRIGDIG. Each digilator pool contains 65,536 digit blocks to store digits. The number of digit blocks used by the table depends on the distribution of the digits in the table and on the number of DIGNAMEs used. The values are as follows:

- range of values is 1 to 6
- default value is 1

Under-provisioning this parameter limits the number of tuples that can be added to table TRIGDIG. Over-provisioning results in unnecessary use of data store.

> ***Note:*** Digilator pool use can be monitored using command DBLOCKS within the DMSMON utility.

12.3 AMA-related extension blocks

ATTENTION
The information in this sub-section is preliminary and is subject to change without notice.

The AMA extension blocks are as follows:

- CRS_SUBRU_POOL1_SIZE (8 words including headers), this extension block is unaffected by AIN Service Enablers functionality
- CRS_SUBRU_POOL2_SIZE (16 words including headers), each Analyze Route operation requires a data structure to be allocated from this pool
- CRS_SUBRU_POOL3_SIZE (26 words including headers), this extension block is unaffected by AIN Service Enablers functionality
- CRS_SUBRU_POOL4_SIZE (41 words including headers)

  > ***Note:*** Each AIN Service Enablers Send_To_Resource message which contains an AMAMeasure parameter having a value of “connectTimerRecordedDestinationSSP” requires a data structure to be allocated from this pool.

- CRS_SUBRU_POOL5_SIZE (61 words including headers), this extension block is unaffected by AIN Service Enablers functionality
- CRS_PRU_POOL2_SIZE (60 words including headers), this extension block is not directly affected by AIN Service Enablers functionality,

although the number of AIN billable calls can indirectly cause this parameter to increase

12.4 Datafilling table TCAPTRID

The AIN application uses identifier pool transaction management system and no longer requires datafill for table TCAPTRID. Storage is now dynamically allocated by the identifier pool system.

Note: Table TCAPTRID is obsolete. Identifier pools (IDPL) automatically allocate transaction and component identifiers for all applications.

Table TCAPTRID permanently contains the information for the AIN application. See Figure 50

Figure 50 Example from table TCAPTRID

```
TCAPAPPL NUMTRIDS NUMCOMPS IDPLUSER

------------------------------------
     AIN        0        0        Y
```

During an ONP, the previous contents of the AIN tuple are overwritten. Changes are not allowed to the AIN entry in table TCAPTRID. Any attempted changes result in the following message: Application has converted to identifier pool software. Modification of this tuple is not allowed.

12.5 AIN treatments

There are two AIN Service Enablers-specific treatments.

- AIN final treatment—applied whenever there is a call-related fatal error.
- AIN disconnect call treatment—applied when the off-board processor sends the Disconnect (DISC) response to the SSP to disconnect the call.

12.5.1 AIN final treatment

AIN Final Treatment (AINF) is applied whenever there is a call-related fatal error. For ISDN user part (ISUP) users, map this treatment to Temporary Failure table TMTMAP and table TMTCNTL. The operating company determines the type of error notification (reorder tone or announcement).

12.5.1.1 Table TMTCNTL, subtable TREAT

Table TMTCNTL defines tones, announcements, and states that are returned to the originator of a call. In theory, each type of originator can have its own AIN final announcement defined. The AINF associated with the OFFTREAT is applied if the originator does not have its own AINF defined.

In table TMTCNTL, add the AINF treatment to the following different types of originators:

- OFFTREAT (for office)
- LNT (for lines)
- ITTRKGRP and TITRKGRP (for trunks)

12.5.1.1.1 Datafill sequence and implications Datafill the following tables before table TMTCNTL.TREAT:

- DNINV
- DNROUTE

12.5.1.1.2 Table size 0 to 256 tuples

12.5.1.1.3 Datafill The following table lists datafill specific to AIN for table TMTCTRL.TREAT. Only those fields that apply directly to AIN are shown. For a description of the other fields, refer to the data schema section of the *Translations Guide.*

Table 280 Fields from table TMTCTRL.TREAT

Field name	Subfield	Entry	Explanation and action
TREATMT		AINF	Treatment. Enter AINF for the advanced intelligent networks final treatment.

Table 280 Fields from table TMTCTRL.TREAT

Field name	Subfield	Entry	Explanation and action
LOG		Y	Log. Enter Y to make the system generate a log each time a call translates to AIN final treatment.
FSTRTE		S	First route selector. Enter S.
	CLLI	alphanumeric	Common language location identifier. Enter the corresponding CLLI from table CLLI.

12.5.1.1.4 Datafill example The following sample shows sample datafill for table TMTCNTL.TREAT.

Figure 51 MAP display example for table TMTCNTL.TREAT

```
TREATMT LOG          FSTRTE
-------------------------------------
  AINF   Y  S         T120
```

12.5.1.2 Table TMTMAP

Table TMTMAP provides mapping of DMS-100 treatments to call failure messages supported by certain Signaling System 7 protocols. Datafill in the table determines whether the treatment is reported to the preceding exchange (and if so, by what message) or whether DMS-100 applies the treatment locally, in which case the usual datafill in table TMTCNTL, subtable TREAT, determines the outcome.

Each time a new treatment code is added to subtable TMTCNTL.TREAT, tuples for the new treatment can be datafilled in table TMTMAP

Datafill table TMTMAP to allow the AINF treatments to be applied to ISUP.

12.5.1.2.1 Datafill sequence and implications Datafill the following tables before table TMTMAP:

- BCDEF
- TMTCNTL
- DNROUTE

12.5.1.2.2 Table size

0 to 3540 tuples

12.5.1.2.3 Datafill

The following table lists datafill specific to AIN for table TMTMAP. Only those fields that apply directly to AIN are shown. For a description of the other fields, refer to the data schema section of the Translations Guide.

Table 281 Fields from table TMTMAP

Field name	Subfield	Entry	Explanation and action
TMTMPKEY		see subfields	Table TMTMAP key. This field consists of subfields PROTOCOL, TMT, and BC_CT.
	PROTOCOL	Q764	Protocol. Enter Q764 for ISUP trunks.
	TMT	AINF	Treatment. Enter AINF for AIN final treatment.
	BC_CT	ALLBC	Bearer capability call type. Enter ALLBC so all bearer capability call types are mapped to the same treatment. Bearer capability types must be datafilled in table BCDEF before they can be datafilled in field BC_CT
TMTMPVAR		see subfields	Treatment map variable. Consists of subfield FORMAT.
	FORMAT	ISUP	Protocol format. Enter ISUP for ISDN user part. Datafill refinement TMTPROC.
	TMTPROC	NOLOCAL	Treatment procedure selector. Enter NOLOCAL to map a treatment to a cause and always include in the cause value in the release message. Datafill refinements CAUSE, LOCATION and LOG
	CAUSE	TEMPFAIL	Cause. Enter TEMPFAIL to indicate that the network is not functioning correctly and that the condition is not likely to last a long time. The user can attempt another call almost immediately.

Table 281 Fields from table TMTMAP

Field name	Subfield	Entry	Explanation and action
	LOCATION	LOCLNET	Cause indicator location. Enter LOCLNET to map the cause value in the release message to a local public switching office.
	LOG	N	Generate log. Enter N (no). Log TRK138 is not required because table TMTCNTL, subtable TREAT is generates a log each time the system translates a call to AIN final treatment.

12.5.1.2.4 Datafill example The following sample shows sample datafill for table TMTMAP.

Figure 52 MAP display example for table TMTMAP

```
              TMTMPKEY                    TMTMPVAR
-----------------------------------------------------------
Q764 AINF          ALLBC ISUP  NOLOCAL TEMPFAIL  LOCLNET Y
```

12.5.2 AIN Disconnect Call treatment

AIN Disconnect Call (AIND) treatment is applied when the off-board processor sends the Disconnect (DISC) response to the SSP to disconnect the call. The call is cleared as normal.

12.6 Station message detailed recording (extension record DF04)

Adding option AIN01 to an MDC customer group causes an extension record to be appended to SMDR billing records. Records are appended for AIN 01 Essentials calls in which the service control point (SCP) returns valid billing information.

12.6.1 Table CUSTSMDR

Station Message Detail Recording (SMDR) provides customer groups with a mechanism for generating billing records for calls. Table CUSTSMDR lists the SMDR options assigned to each customer group.

12.6.1.1 Datafill sequence

Datafill the following tables before table CUSTSMDR:

- CUSTENG
- CRSFMT
- CRSMAP
- CUSTHEAD
- DATAOWNER
- OWNTAB

Table CUSTSMDR interacts directly with the following office parameters:

- SMDR_OFFICE in table OFCOPT
- CRS_SUBRU_POOL2_SIZE in table OFCENG

12.6.1.2 Table size

0 to 4095 tuples

12.6.1.3 Datafill

The following table lists datafill specific to AIN for table CUSTSMDR. Only those fields that apply directly to AIN are shown. For a description of the other fields, refer to the data schema section of the *Translations Guide.*

Table 282 Fields from table CUSTSMDR

Field name	Subfield	Entry	Explanation and action
OPTIONS		see subfield	Options. This field consists of subfield OPTION.
	OPTION	AIN01	Customer group options. Enter AIN01 to make the switch generate the DF04 SMDR extension record for the customer group specified in field CUSTNAME.

12.6.1.4 Datafill example

The following sample shows sample datafill for table CUSTSMDR.

Figure 53 MAP display example for table CUSTSMDR

```
    CUSTNAME    BUSNSID
                                    OPTIONS
--------------------------------------------------------------------
    COMKODAK         0
                                (   AIN01 )$
```

13 SS7 datafill

13.1 SS7 tables

As in the AIN Essentials product, Global Title translation can be used by the AIN Service Enablers product to perform routing translations for sending query messages to the off-board processor. Global Title translation can also be performed at an STP. The associated data tables used by the SSP have not been changed for the AIN Service Enablers product. For more details on the SS7 tables, see NTP 297-8021-350, *DMS-100 Family NA100 Base Services Part 1 of 2 Translations Guide.*

13.1.1 Table C7LOCSSN - local subsystem table

The DMS SSP uses a single local Subsystem Number (SSN) for both AIN Essentials (R0.1) and AIN Service Enablers (R0.2) triggers. In messages sent to the SCP due to either R0.1 or R0.2 triggers, the SSN value in the SCCP Calling Party Address will be set to the SSN value datafilled in table C7LOCSSN for the tuple with the key “AIN01”. No additional datafill is required in table C7LOCSSN to support AIN Service Enablers.

Unidirectional messages sent from the SCP to the SSP, with an SSN value equal to the SSN datafilled in table C7LOCSSN for the tuple with the key “AIN01”, will be processed by the AIN R0.1 application.

13.1.2 Table C7GTTYPE - Global Title Translation type table

Table C7GTTYPE is used to define a mapping from a user-defined symbolic Global Title name to a network-defined Global Title Type number. The Global Title name defined in table C7GTTYPE is used in table C7GTT to translate the Global Title address supplied by the AIN application to an SS7 network address.

When defining AIN Service Enablers triggers, a Global Title name from table C7GTTYPE must be specified. Common Global Title names can be used in both AIN Essentials and AIN Service Enablers triggers, or different Global Title names can be used. Depending on how the query is to be routed, it may be preferable to datafill multiple Global Title names to route to different SCPs or to different subsystem numbers (SSNs) at a single SCP.

For example, if the query is to be routed differently depending on the AIN application (AIN R0.1 or R0.2), then this can be accomplished by using distinct sets of Global Title names for the different AIN applications. Alternatively, common Global Title names can be used for both R0.1 and R0.2 triggers, if distinguishing between the two AIN applications at the SCP is unnecessary.

13.1.3 Message routing examples

Three examples of message routing are given.

- Using different subsystem numbers (SSN) at the SCP
- Point code-only routing
- Point code + SSN routing

13.1.3.1 Using different subsystem numbers at the SCP

If different SSNs are being used at one SCP to process AIN R0.1 (Essentials) and AIN R0.2 (Service Enablers) messages, then a separate Global Title name will be required for each SSN. Each SSN will require a different network-defined Global Title Type number to facilitate the global title translations being performed on the remote node. In turn, this means that separate Global Title names will be required for each Global Title Type number.

If only one Global Title name is being used and AIN R0.1 messages must be segregated from AIN R0.2 messages, then the operating company must partition the Global Title Address range between AIN R0.1 and R0.2. The remote node can then use the contents of the Global Title Address to distinguish between AIN R0.1 and R0.2 messages when performing Global Title translations.

13.1.3.2 Point code-only routing

If point code-only (PCONLY) routing is being used, with a single SSN for both AIN R0.1 and R0.2 at one SCP, then the same Global Title name can be used when defining both AIN R0.1 and R0.2 triggers in tables TRIGDIG and TRIGINFO. No additional datafill is required in the SS7 tables.

If different SSNs at the SCP are being used for AIN R0.1 and AIN R0.2 triggers, or different SCPs altogether are being used, then multiple Global Title names are required. (See Section 13.1.1.)

13.1.3.3 Point code and SSN routing

To support routing based on point code and remote SSN (PCSSN), table C7NETSSN must be datafilled, using the routeset over which the message will be routed as the key, with the SSNs located at the remote point code corresponding to the routeset. When datafilling table C7NETSSN, an arbitrary character string is assigned by the operating company personnel to each SSN at the remote point code. This character string is used when datafilling table C7GTT with the PCSSN option to indicate the desired remote SSN that will be sent to the remote node in the message.

13.2 Datafilling for SS7 message routing

The AIN 0.1 SSP can interface to the off-board processor either through the Signaling System Number 7 (SS7). The examples given in the following triggering chapters use the SS7 transport for queries and responses.

To use the SS7 transport, the TRANSPRT field of the DIGNAME or INFONAME defined in the TRIGDIG, TRIGINFO, or TRIGITM tables must be set to SS7, and a Global Title (GT) must be defined in the SS7 message routing tables before it can be referenced from the TRIGINFO, TRIGDIG or TRIGITM tables.

Figure 54 on page 490 illustrates the relationships among these tables. (The datafilling examples are for illustration only, and should not be understood as recommended datafill.)

Figure 54 SS7 message routing table dependencies

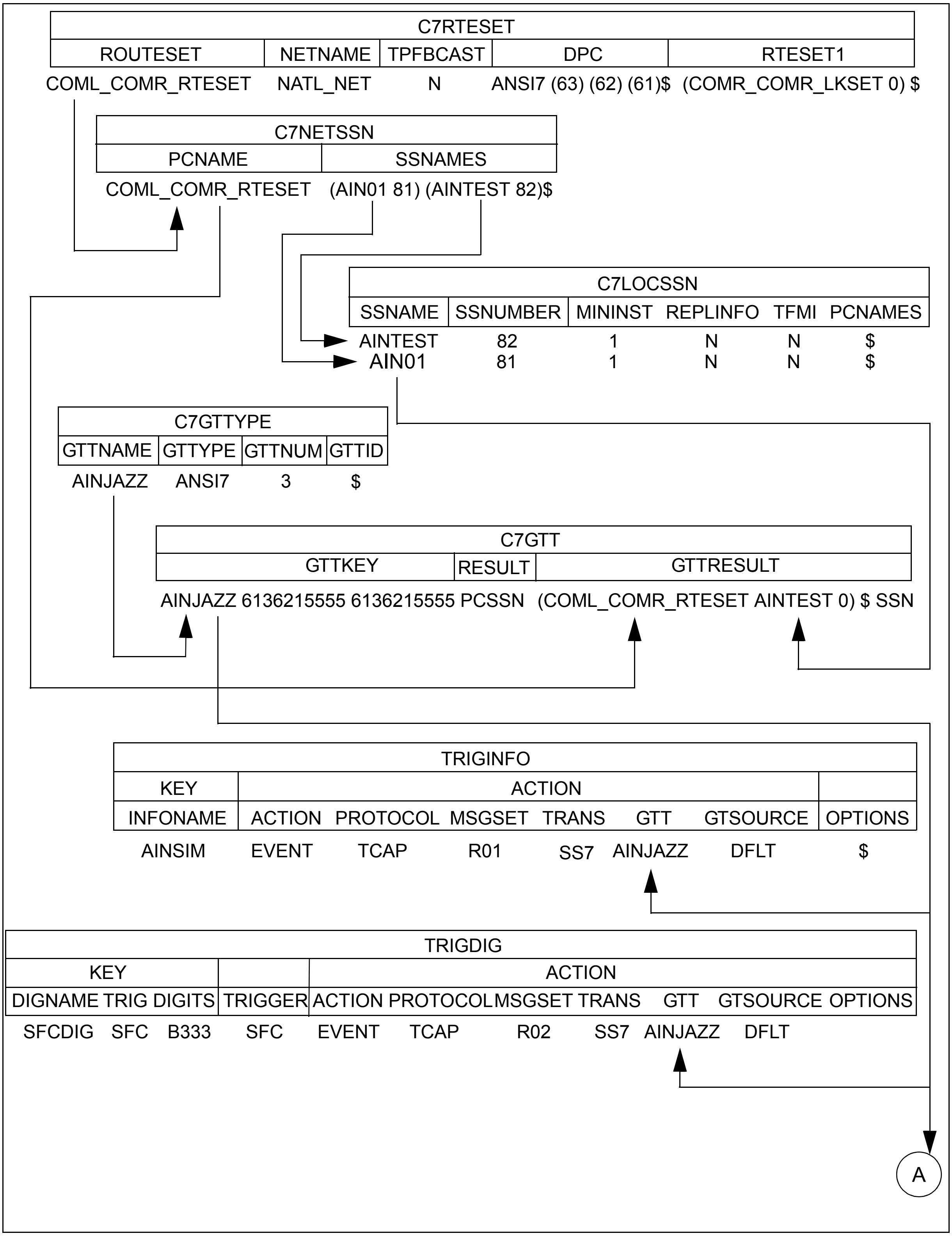
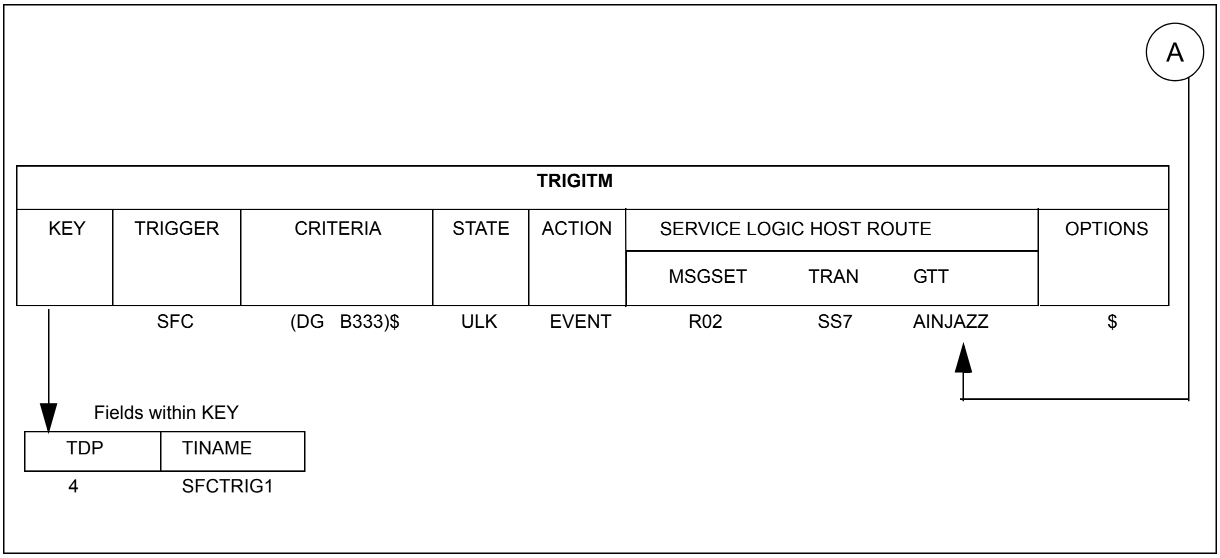


Figure 55 SS7 message routing table dependencies (continued)



Global Title translation is used by the AIN 0.1 SSP to perform message routing translations for sending query messages to the off-board processor. There are several data tables that are used by the service switching point (SSP) to store GT information. Since these tables are provided by currently existing software and were not altered for AIN 0.1, they are described only briefly here.

13.2.1 C7LOCSSN

This is a local subsystem table that specifies a local subsystem name and number for an AIN SCP application.

For the AIN 0.1 application on the SSP, the subsystem name that must be used is AIN01. In Figure 54 on page 490, two AIN 0.1 subsystems, AIN01 and AINTEST, are datafilled in table C7LOCSSN.

13.2.2 C7RTESET

This is the SS7 Route Set table. It associates link sets and routes logically to define a signaling point in the network to which signaling information is carried. The destination point code (DPC) in the table C7RTESET in specifies the unique address of the signaling point named COML_COMR_RTESET in the network.

13.2.3 C7NETSSN

This is the Network Subsystem Routing table. It provides the set of remote point code and subsystems identifiers at the remote point code, where messages are routed by the signaling connection control part (SCCP) of the SS7 protocol. The point code in this table has to be datafilled in C7RTESET.

13.2.4 C7GTTYPE

This is the Global Title Translation Type table. It provides the mapping of the user defined symbolic global title translation name (GTTNAME) to a network defined global title translation type number (GTTNUM). The translation type number specifies the numbering plan (for example, Implicit, ISDN) and an encoding scheme such as binary-coded decimal (BCD) to be used to map the GT to a SS7 network address.

In Figure 54, the user defined GTTNAME is AINJAZZ; the corresponding network defined GTTNUM is 3.

13.2.5 C7GTT

This is the Global Title Translation table. It maps the GT of a particular translation type to a SS7 network address used to route the message to its destination. The GT is an application address, such as the dialed digits. The digits for AIN 0.1 are taken from the GT source datafilled in either TRIGINFO or TRIGDIG. The GT source can be one of the parameters, Charge Number or Called Party ID, depending upon the trigger. The translation type is derived from the table C7GTTYPE using the GTTNAME. The GTTNAME is datafilled for AIN 0.1 in either TRIGINFO or TRIGDIG. The GTTRESULT specifies the network address, and it can be one of PC only, SSN only, PC and SSN, PC and New GT, or Error. Hence, the GTTRESULT indicates if further translation at subsequent nodes is required or not.

In Figure 54 on page 490, when the dialed digits are 6136215555, AINJAZZ is mapped to the SS7 network address COML_COMR_RTESET AINTEST.

In addition, because these are SS7 tables used by AIN 0.1, see also *CCS7 Translations,* NTP 297-5151-350, for related information.

13.3 AIN MPC compliancy

The AIN application is compliant in an SS7 MultiPointCode (MPC) environment. The AIN application can serve necessary information when the SSP functions as a multi logical node in an SS7 network.

14 Trigger group provisioning interface

The trigger group provisioning interface refers to the Nortel Networks implementation of trigger group and trigger group subscriptions as defined in Bellcore GR-1298. The term DMS Trigger Group Interface refers to the traditional AIN provisioning system.

Customers can choose the interface for provisioning and administering triggers. The choice of trigger provisioning interface occurs at subscription time. Both the trigger group and trigger item interfaces can be provisioned independently. Data created by the two interfaces are mutually exclusive for a particular AIN subscriber at run time.

14.1 Trigger definition and subscription

Table 283 shows the definition and subscription tables applicable to the different trigger types. Criteria, subscription basis and SERVORD support are also indicated.

Table 283 Trigger definition and subscription summary

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Subscription tables	Option	SERVORD
ORIGATT	OFFHKIMM	CT	TRIGGRP TRIGINFO	Line (POTS)	LENFEAT	AIN	YES
				Line (MDC, RES)	IBNFEAT		
				Line (EBS, MFT)	KSETFEAT		
INFOCOL	OFFHKDEL	CT ESC (M) ESCMDC	TRIGGRP TRIGINFO TRIGESC	Line (POTS)	LENFEAT		
				Line (MDC, RES)	IBNFEAT		
				Line (EBS, MFT)	KSETFEAT		
				DISA DN	DNFEAT		
				Trunk group (IBN)	TRKAIN		NO
	INTEROFF	CT DG (M) ESC	TRIGGRP TRIGDIG TRGSIESC	Trunk group	TRKAIN		

Table 283 Trigger definition and subscription summary (Continued)

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Subscription tables	Option	SERVORD
INFOANAL	SDS	CT ESCCN ESCEA ESCOP ESCGP DG (M)	TRIGGRP TRIGDIG	Office	OFCVAR	N/A	No
	N11	CT DG (M)	TRIGGRP TRIGDIG	Office	OFCVAR	N/A	No
	CDPCODE	CT DG (M)	TRIGGRP TRIGDIG	Customer group	CUSTSTN	AIN	No
	PFC	CT DG	TRIGDIG TRIGGRP	Line MDC, RES)	IBNFEAT	AIN	SO
				Line (EBS, MFT)	KSETFEAT		
				DISA DN	DNFEAT		Yes
	SFC	CT DG	TRIGDIG TRIGGRP	Individual	IBNFEAT	AIN	SO
					KSETFEAT		
	LNP	CT ESCCN ESCEA ESCOP DG (M)	TRIGGRP TRIGDIG	Office	OFCVAR	N/A	No

Table 283 Trigger definition and subscription summary (Continued)

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Subscription tables	Option	SERVORD
NETBUSY	AFR	CT	TRIGGRP TRIGINFO AFR TABLES	Line(POTS)	LENFEAT	AIN	Yes
				Line (MDC, RES)	IBNFEAT		
				Line (EBS, MFT)	KSETFEAT		
				DISA DN	DNFEAT		
				Trunk group	TRKAIN		NO
				Customer group	CUSTSTN		
				Office	OFCVAR	N/A	

Table 283 Trigger definition and subscription summary (Continued)

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Subscription tables	Option	SERVORD
OCPB	OCPB	CT	TRIGGRP TRIGINFO	Line (POTS)	LENFEAT	AIN	YES
				Line (MDC, RES)	IBNFEAT		
				Line (EBS, MFT)	KSETFEAT		
				Trunk group	TRKAIN		NO
ONOA	ONOA		TRIGGRP TRIGINFO	Line (POTS)	LENFEAT		YES
				Line (MDC, RES)	IBNFEAT		
				Line (EBS, MFT)	KSETFEAT		
				Trunk group	TRKAIN		NO
TERMATT	TERMATT		TRIGGRP TRIGINFO	DN	DNFEAT	AIN DN	YES
				AIN virtual DN	DNFEAT		
TKTERM	TERMATT	CT		Trunk group	TRKAIN		NO

Note 1: (M) = mandatory.

Note 2: SERVORD = YES indicates the table can be datafilled through SERVORD or table control. Tables LENFEAT, IBNFEAT, and KSETFEAT can only be updated through SERVORD.

Note 3: SERVORD = NO indicates the table cannot be datafilled through SERVORD, but only through table control.

14.2 Call type criterion

Call type (CT) is an optional criterion for all AIN Service Enablers triggers being discussed. CT is used to specify which type of call (voice or data) can trigger and send a query message. If not specified, either voice or data calls trigger.

Whether a call is voice or data depends on the bearer capability (BC) parameter of the call. The BC parameter contains the bearer capability of the call that encountered the trigger. This parameter is mandatory in all outgoing messages.

The DMS CT symbols are VBINFO for voice and CMDATA for data.

Whether a call is a voice call or a data call depends on the TRANSFER CAPABILITY value of each BCNAME, which is defined by field XFERCAP in table BCDEF.

Table 284 is a summary of an incoming BC, its corresponding BC in an AIN outgoing message, its XFERCAP value, and the type of call. Given an incoming BC, you can use the table to determine whether the call is voice or data.

Table 284 Bearer capability (BC) summary

Incoming BC	Outgoing AIN BC	XFERCAP field in table BCDEF	Voice or Data
SPEECH	SPEECH	SPEECH	Voice
3_1KHZ	f32kHZaudio	AU3_1KHZ	
7_KHZ	f7kHzaudio	AU7KHZ	
64K_RATE_AD_DATA	b56kbps	UNRESDIG	Data
56K_DATA			
DATA_UNIT			
64K_DATA	b64kbps		
64K_X25	There is no AIN value defined for these; send the call to treatment.		
WIDEBAND		N/A	
64K_RES			

14.3 Multiple trigger group definition

Consider the following issues when defining a multiple-trigger group in table TRIGGRP and subscribing to that group.

14.3.1 Choosing a trigger group name

The table TRIGGRP is keyed on the trigger group name and on the trigger detection point (TDP). You must create a name for the trigger group (up to 16 characters). It may be helpful to use a name that identifies the subscriber or the service.

14.3.2 Making a list of trigger types for the trigger group

List the trigger types that are contained in the group. The trigger types that can be contained in the trigger group depend on the potential subscribers of the trigger group. Including trigger types, subscribed through different interfaces, for one trigger group is not recommended as some triggers may not be encountered at run-time. A trigger type can be included more than once in a trigger group.

14.3.3 Grouping the trigger instances by TDP

Group the trigger instances according to which TDP or trigger type they belong. The datafilling order is important. If the trigger group contains several trigger instances at the same TDP, the call encounters the triggers in the order in which they are datafilled.

14.3.4 Choosing the criteria for each trigger instance

After choosing the trigger types, decide on the criteria for each trigger instance. A call type (CT) criterion must be entered before digits (DG) criterion or escape (ESC) criterion.

14.3.5 Choosing the action information for each trigger instance

Each trigger instance can have its own query destination.

14.3.6 Subscription

For each subscription basis, only one AINGRP can be assigned to an agent on that particular subscription basis. An agent can potentially subscribe to a different AINGRP on a different basis. For example, when a call originates from an Internal Business Network (IBN) agent, it can potentially encounter an AINGRP called LINETRIG because the originating line has subscribed to it on an individual basis. The call might also encounter an AINGRP called CUSTTRIG because the customer group to which the originating IBN line belongs has subscribed to it on group basis. Again, the call might encounter an AINGRP called OFFICETRIG because the office to which the line belong has subscribed to it on an office basis.

14.3.7 Sample multi-trigger groups

This section describes sample trigger groups that contain more than one trigger.

Table 285 shows an example of two trigger groups that can subscribe to line agents.

Table 285 Example of multiple-trigger groups

Table TRIGGRP	
KEY	**TRIGDATA**
LINETRIG ORIGATT	(OFFHKIMM (CT CMDATA) $AINSIM) $
LINETRIG INFOCOL	(OFFHKDEL (ESC) $AINSIM) $
LINETRIG NETBUSY	(AFR $NIL) $

Table 286 shows an example trigger group for a trunk group.

Table 286 Trigger group example for a trunk group

Table TRIGGRP	
KEY	**TRIGDATA**
TRKTRIG2 INFOCOL	(OFFHKDEL (ESC) $ AINSIM)$
TRKTRIG2 NETBUSY	(AFR $ NIL) $

Table 287 shows an AIN trigger group CDPTRIG, defined in table TRIGGRP, that contains triggers valid on a customer group basis.

Table 287 Trigger group example on a customer group basis

Table TRIGGRP	
KEY	**TRIGDATA**
CDPTRIG INFOANAL	(CDPCODE (DG CDPDIG) $ NIL) $
CDPTRIG NETBUSY	(AFR $ NIL) $

Table 288 shows an example of a trigger group defined in table TRIGGRP that contains all the triggers that are valid on an office basis.

Table 288 Example of trigger group valid on an office basis

Table TRIGGRP	
KEY	**TRIGDATA**
OFFICETRIG INFOANAL	(N11 (CT VBINFO) (DG N11DIG) $ NIL) $ (PODP (DG PODPDIG) $ NIL)

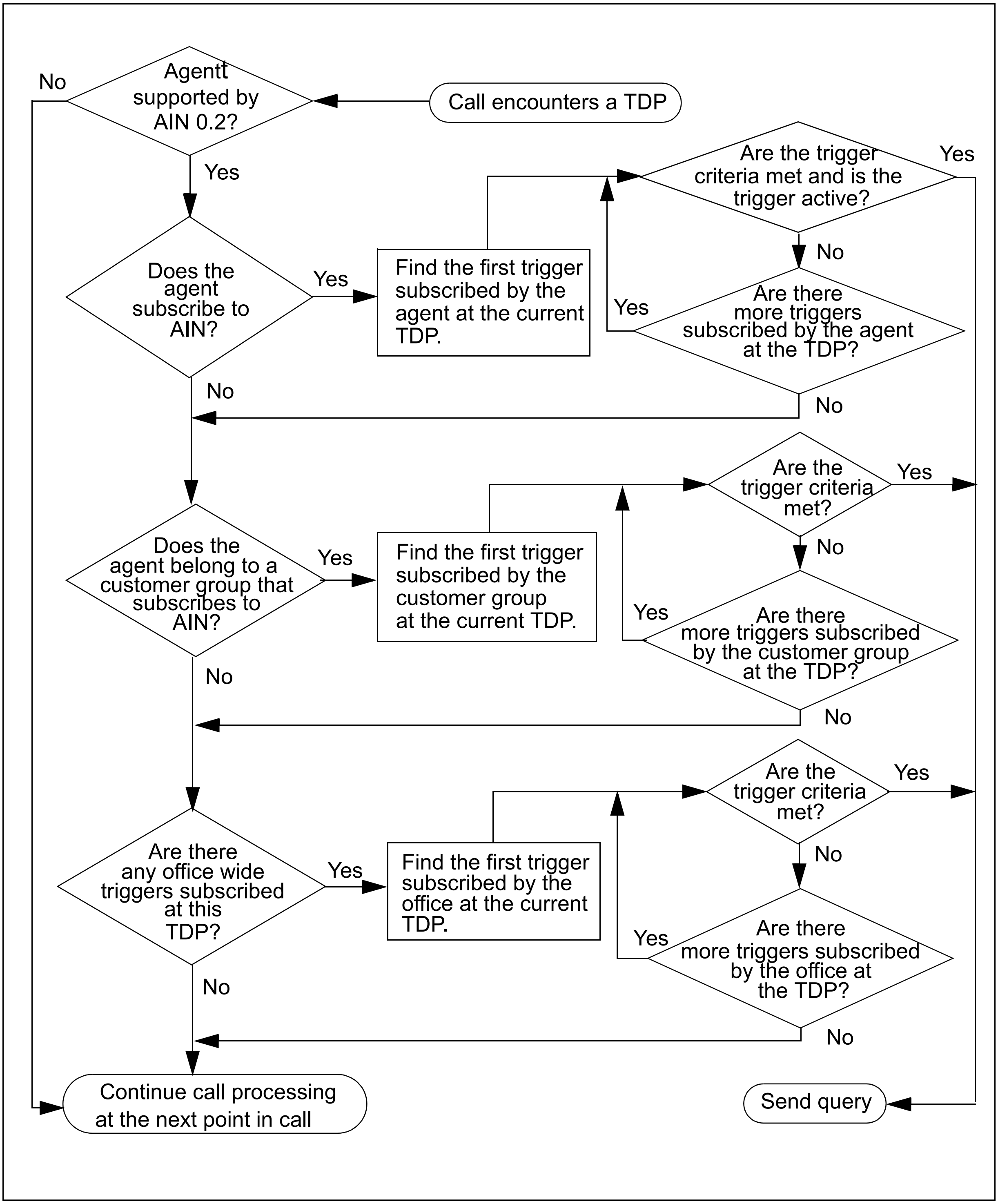
Table 288 Example of trigger group valid on an office basis

Table TRIGGRP	
KEY	**TRIGDATA**
OFFICETRIG NETBUSY	(AFR $ NIL) $

14.4 Trigger processing precedence

When a call encounters a TDP at which triggers can be subscribed by a line, trunk group, customer group, office, or DISA DN, the SSP checks for a trigger subscription according to the logical flow shown in Figure 56 “Trigger checking order” on page 502.

Figure 56 Trigger checking order



Note: Figure 56 assumes all agents are AIN supported.

14.5 Administering the trigger activation states by trigger group

The trigger activation states for line, trunk, and DN subscribed agents can be viewed and modified using various command interpreter (CI) commands located in the AINCI directory.

To enter the AINCI directory, type the following:

>AINCI

Two following CI commands are used to display and modify the activation states for a given AIN subscriber to Off-Hook Immediate, Off-Hook Delay, or Termination Attempt triggers:

- SHOWSTATE
- CHANGESTATE

For information on the SHOWSTATE command, see Section 25.10.1.1 “Displaying the trigger activation states” on page 706.

For information on the CHANGESTATE command, see Section 25.10.1.2 “Modifying the trigger activation state” on page 708.

14.6 Datafilling for default routing

Default routing procedures are provided for a signaling connection control part (SCCP) routing error (indicated by the receipt of an SCCP return on error message) and T1 timer expiry.

> ***Note:*** The SCCP return on error message is defined in Section 6.5.5 of TR-NWT-000606, Common Channel Signaling and in Section 3 of GR-1280-CORE. Additional information regarding the associated UDTS/XUDTS messages may be found in TR-NWT-000246.

Ensure that the Default Routing option (AIN00010) is in the ON state. This is required for default routing to function. See Section 11.1 “Activating AIN SSP software” on page 373.

> ***Note:*** The AIN00010 does not have any impact if the R02 message set (AIN 0.2) is used.

Default Routing functionality can be applied to the SDS, N11, LNP, and Termination Attempt triggers. For triggers that are not subscribed to Default Routing or that do not support Default Routing, AIN Final treatment will be applied when an SCCP routing error or T1 timer expiry occurs.

Default routing can be subscribed on a per trigger basis by using the options field in tables TRIGDIG (SDS, N11 and LNP triggers) and TRIGINFO

(Termination Attempt trigger). Datafill this field with DFLTRT to subscribe a trigger to default routing. The fields that are associated with DFLTRT are as follows:

- ANN

  This specifies that an announcement should be played once default routing applies. If datafilled, the ANNIDX field applies. The ANNIDX field indicates the index of the announcement in table AINANNS to be played.

- DN

  This field indicates that the call should route to the DN specified. If datafilled, the DN field applies. The DN field can contain 3, 7, or 10 decimal digits and if no digits are required then "$" will be entered in place of the digits. If no digits are specified, the call continues processing. If an inappropriate number of digits is specified or a hex digit is specified, the data entered is rejected.

- ANNDN

  When this option is datafilled, then both the ANNIDX field and the DN field apply and must be datafilled.

- E911ESN

  This option is only valid for the TERMATT trigger. If datafilled, the ESN field applies. The ESN must be present in the E911ESN table. This option can be used for emergency calls. If default routing occurs during an emergency call, table E911ESN contains several PSAPs to which the call can be routed.

After datafilling an option and associated fields, the user is prompted for another option. To indicate that there are no more options, enter '$'. Otherwise, more options will be expected.

14.6.1 TRIGINFO examples

Table 289 shows some examples of the datafilling default routing in table TRIGINFO.

Table 289 Examples of table TRIGINFO datafill

Infoname	Action	Options
INFO1	EVENT TCAP R01 SS7 AINJAZZ DFLT	(DFLTRT ANN 34)$
INFO2	EVENT TCAP R01 SS7 AINJAZZ DFLT	(DFLTRT DN 6137211000)$
INFO3	EVENT TCAP R01 SS7 AINJAZZ DFLT	(DFLTRT ANNDN 34 6133376159)$
INFO4	EVENT TCAP R01 SS7 AINJAZZ DFLT	(DFLTRT E911ESN 911)$

Currently, the DFLTRT option in table TRIGINFO will only be applicable for the Termination Attempt (TERMATT) trigger. If a trigger is encountered that references a tuple in table TRIGINFO with the DFLTRT option and a default routing condition occurs (that is, T1 timer expiry), AIN Final Treatment will be applied if the trigger is not the TERMATT trigger.

INFO1 indicates that when default routing is deemed applicable for this trigger, the announcement at index 34 of table AINANNS is played. Upon completion of the announcement, the call is send to disconnect treatment (DISC).

INFO2 indicates that, if default routing applies, the call is routed to the specified DN. If the trigger is other than the Termination Attempt trigger, AIN final treatment (AINF) is applied. If this is the DN to which the TERMATT trigger is assigned, then AUTHORIZE_TERMINATION response processing is followed. If the DN is different than the TERMATT DN, FORWARD_CALL response processing is followed.

INFO3 indicates that an announcement is played. When the announcement completes, routing continues as described for INFO2.

INFO4 indicates that if default routing applies, the E911ESN table is consulted and indexed with the given value. The E911ESN tuple obtained with this index value lists other PSAPs to which the emergency call can be routed.

After datafilling an option and associated fields, the user is prompted for another option. To indicate that there are no more options, enter ‘$’. Otherwise, more options will be expected.

14.6.2 TRIGDIG examples

Table 290 shows some examples of the datafilling default routing in the TRIGDIG table.

Table 290 Examples of table TRIGDIG datafill

Key	Trigger	Action	Options
DIG0 N11 411	N11	EVENT TCAP R01 SS7 AINJAZZ DFLT	(DFLTRT ANN 34)$
DIG1 PODP 61	PODP	EVENT TCAP R01 SS7 AINJAZZ DFLT	(DFLTRT DN 6137211000)$
DIG1 PODP 42	PODP	EVENT TCAP R01 SS7 AINJAZZ DFLT	(DFLTRT ANNDN 34 6137221234)$
DIG2 N11 611	N11	EVENT TCAP R01 SS7 AINJAZZ DFLT	(DFLTRT ANNDN 34)$

Currently, the DFLTRT option in table TRIGDIG is only applicable to the SDS, N11 and LNP triggers.

The first tuple indicates that when default routing is applicable for this trigger, the announcement at index 34 of table AINANNS is played. Upon completion of the announcement, the call is sent to disconnect treatment (DISC).

The second tuple indicates that if the default routing applies, the call is routed to the specified DN. A procedure similar to an Analyze Route response with a Called Party Number is followed.

The third tuple indicates that an announcement is played. When the announcement completes, routing continues as described for the second tuple.

The fourth tuple indicates that an announcement is played. When the announcement completes, the call continues routing to the originally dialed DN.

14.6.3 Routing characteristics

Since default routing allows call processing to continue as if a response was received from the SCP, it uses the same datafill setup that is required for routing in Analyze_Route and Forward_Call responses, and it also uses the same datafill setup that is required for playing of an announcement in Send_To_Resource response. See “Analyze_Route response” on page 801, “Forward_Call response” on page 849, and “Analyze_Route response” on page 801.

14.7 Deletion of a tuple from table TRIGDIG

Deletion of a tuple from table TRIGDIG will be blocked if the DIGNAME/TRIGGER combination to be deleted is referenced by an existing tuple in table TRIGGRP.

In table TRIGGRP deleted tuples are stored until two table audits are completed following the deletion of the TRIGGRP tuple. Table audits are scheduled daily at 3:11 a.m.

If the DIGNAME/TRIGGER combination to be deleted is referred to by a deleted TRIGGRP tuple and if the DIGNAME does not appear elsewhere in table TRIGDIG. The deletion of the TRIGDIG tuple will be blocked. Suitable error messages are displayed indicating the reason for denial of the deletion. The various error messages are discussed in Section 14.7.1 “DIGNAME not elsewhere in table TRIGDIG” on page 507.

If the DIGNAME/TRIGGER combination to be deleted is referred to by a deleted TRIGGRP tuple and if the DIGNAME/TRIGGER combination does not appear elsewhere in the table but the DIGNAME appears in table

TRIGDIG, the deletion of the TRIGDIG tuple will be allowed. Suitable warning messages are discussed in Section 14.7.2 “DIGNAME/TRIGGER combination not elsewhere in table TRIGDIG but DIGNAME in table TRIGDIG” on page 508.

14.7.1 DIGNAME not elsewhere in table TRIGDIG

The various error messages displayed are shown in Figure 57 to Figure 59 on page 508. In all the following cases, the DIGNAME to be deleted in table TRIGDIG does not appear elsewhere in table TRIGDIG.

The warning shown in is displayed when an attempt is made to delete a DIGNAME/TRIGGER pair referred to by an existing tuple in table TRIGGRP.

Figure 57 Warning—delete DIGNAME/TRIGGER

```
Warning: This DIGNAME is referenced by an existing
         tuple in table TRIGGRP.
Deletion is therefore disallowed.
```

The warning shown in Figure 58 on page 507 is displayed when an attempt is made to delete a DIGNAME/TRIGGER pair referred to by a recently deleted TRIGGRP tuple and no table audit has been completed since the deletion of the TRIGGRP tuple.

Figure 58 Warning—delete DIGNAME/TRIGGER —no table audit

```
Warning: This DIGNAME is referenced by a recently
         deleted Tuple in table TRIGGRP. The deleted
         TRIGGRP tuple is temporarily being stored
         until the end of a 24-hour period, starting
         at the next occurrence of 3:11 AM.
Deletion is therefore disallowed until the expiry
of the 24-hour period.
```

The warning shown in Figure 59 is displayed when an attempt is made to delete a DIGNAME/TRIGGER pair referred to by a recently deleted TRIGGRP tuple and a table audit has been completed since the deletion of the TRIGGRP tuple.

The DIGNAME/TRIGGER pair may safely be deleted only after the completion of the second table audit following the deletion of the TRIGGRP tuple referring to the DIGNAME/TRIGGER pair.

Figure 59 Warning—delete DIGNAME/TRIGGER—table audit complete

```
Warning: This DIGNAME is referenced by a recently
         deleted Tuple in table TRIGGRP. The deleted
         TRIGGRP tuple is temporarily being stored
         until the next occurrence of 3:11 AM.
Deletion is therefore disallowed until 3:11 AM.
```

14.7.2 DIGNAME/TRIGGER combination not elsewhere in table TRIGDIG but DIGNAME in table TRIGDIG

The various warning messages displayed are shown in Figure 60 to Figure 62 on page 509. In all the following cases DIGNAME/TRIGGER pair to be deleted in table TRIGDIG does not appear elsewhere in table TRIGDIG, while the DIGNAME itself may appear in conjunction with another trigger in table TRIGDIG.

The warning shown in Figure 60 is displayed when an attempt is made to delete a DIGNAME/TRIGGER pair referred to by an existing tuple in table TRIGGRP.

Figure 60 Warning—delete DIGNAME/TRIGGER

```
Warning: This DIGNAME is referenced by an existing
         tuple in table TRIGGRP.
```

The warning shown in Figure 61 on page 508 is displayed when an attempt is made to delete a DIGNAME/TRIGGER pair referred to by a recently deleted TRIGGRP tuple and no table audit has been completed since the deletion of the TRIGGRP tuple.

Figure 61 Warning—delete DIGNAME/TRIGGER—no table audit

```
Warning: This DIGNAME is referenced by a recently
         deleted tuple in table TRIGGRP. The deleted
         TRIGGRP tuple is temporarily being stored
         until the end of a 24-hour period, starting
         at the next occurrence of 3:11 AM.
```

The warning shown in Figure 62 is displayed when an attempt is made to delete a DIGNAME/TRIGGER pair referred to by a recently deleted TRIGGRP tuple and a table audit has been completed since the deletion of the TRIGGRP tuple.

Figure 62 Warning—delete DIGNAME/TRIGGER—table audit complete

```
    Warning: This DIGNAME is referenced by a recently
             deleted tuple in table TRIGGRP. The deleted
             TRIGGRP tuple is temporarily being stored
             until the next occurrence of 3:11 AM.
```

14.8 Deletion of a tuple from table TRIGINFO

Deletion of a tuple from table TRIGINFO will be blocked if the INFONAME to be deleted is referenced by another table. (The TABREF command may be used to get the potential list of tables referring to this tuple.) Table TRIGGRP is one of them. In table TRIGGRP deleted tuples are stored until two table audits are completed following the deletion of the TRIGGRP tuple. Table audits are scheduled daily at 3:11 a.m.

Hence, if the INFONAME to be deleted is referred to by a deleted TRIGGRP tuple, the deletion of the TRIGINFO tuple will be blocked. Suitable error messages are displayed indicating the reason for denial of the deletion. The various error messages displayed are as shown in Figure 63 to Figure 65.

The warning shown in Figure 63 is displayed when an attempt is made to delete an INFONAME referred to by an existing tuple in table TRIGGRP.

The warning shown in Figure 64 is displayed when an attempt is made to delete an INFONAME referred to by a recently deleted TRIGGRP tuple and no table audit has been completed since the deletion of the TRIGGRP tuple.

Figure 63 Warning—delete INFONAME

```
   Warning: This INFONAME is referenced by an existing,
            tuple in table TRIGGRP.
   Deletion is therefore disallowed.
```

Figure 64 Warning—delete INFONAME—no table audit

```
   Warning: This INFONAME is referenced by a recently
            deleted tuple in table TRIGGRP. The deleted
            TRIGGRP tuple is temporarily being stored
            until the end of a 24-hour period, starting
            at the next occurrence of 3:11 AM.
   Deletion is therefore disallowed until the expiry
   of the 24-hour period.
```

The warning shown in Figure 65 is displayed when an attempt is made to delete an INFONAME referred to by a recently deleted TRIGGRP tuple and a table audit has been completed since the deletion of the TRIGGRP tuple.

Figure 65 Warning—delete INFONAME—table audit complete

```
Warning: This INFONAME is referenced by a recently
         deleted tuple in table TRIGGRP. The deleted
         TRIGGRP tuple is temporarily being stored
         until the next occurrence of 3:11 AM.
Deletion is therefore disallowed until 3:11 AM.
```

The INFONAME may safely be deleted only after the completion of the second table audit following the deletion of the TRIGGRP tuple referring to the INFONAME.

15 Trigger item provisioning interface

The trigger item provisioning interface refers to the Nortel Networks implementation of trigger items and trigger item subscriptions as defined in Bellcore GR-1298. The term DMS trigger group interface refers to the AIN provisioning system that uses table TRIGGRP.

15.1 Choosing a provisioning interface

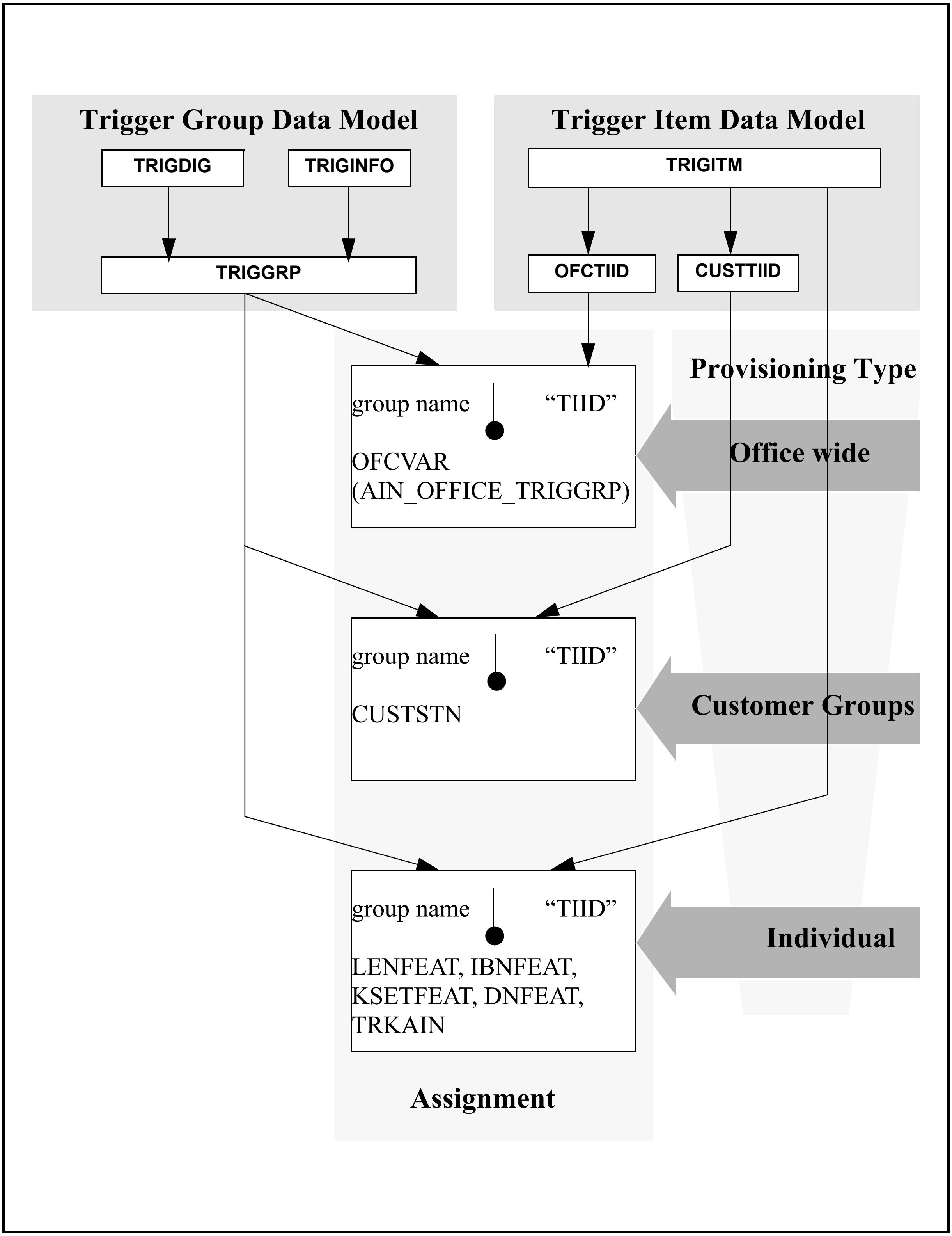
Both trigger group and trigger item interfaces can be used to datafill independent sets of trigger definitions. Triggers defined using the trigger group provisioning interface are independent of trigger items defined using the trigger item provisioning interface.

When an agent is subscribed to AIN, the agent must be subscribed to either a trigger group, or a list of trigger items. An agent cannot be subscribed to a trigger group and a list of trigger items at the same time. However, one agent can be subscribed to a trigger group, while another is subscribed to trigger items. For example, a line could be subscribed to trigger items, while the office is subscribed to a trigger group.

> ***Note:*** To simplify switch operations, it is preferable to use one provisioning interface for all AIN subscribers.

To maintain backwards compatibility with the DMS trigger group interface, the trigger group value controls whether triggers are checked using the trigger item provisioning interface or the trigger group provisioning interface. When the trigger group name is set to “TIID”, the DMS trigger item interface applies. A value other than “TIID” implies that the DMS trigger group interface is in effect. Figure 66 on page 512 illustrates the use of the “TIID” selector.

Figure 66 Trigger group data model and trigger item data model



For subscription to AIN, two options are used, AIN and AINDN. Use of AIN or AINDN is the same when subscribing to AIN through table control or Servord.

The AIN option is used for all originating triggers. It is used in all of the possible subscription tables, including LENFEAT, IBNFEAT, KSETFEAT, TRKAIN, CUSTSTN, and DNFEAT (for DISA).

The AINDN option is reserved for triggers in the terminating half of the call model. The AINDN option is only datafilled in table DNFEAT.

> ***Note 1:*** Because TIID is a reserved trigger group name, it cannot be entered as a trigger group name in table TRIGGRP.
>
> ***Note 2:*** Switching from one provisioning interface to another does not affect the underlying trigger provisioning data. However, this practice is not recommended. Once a provisioning interface is chosen, it is independent.

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Once chosen, the provisioning interfaces are mutually exclusive.

15.2 Trigger definition and subscription

Table 291 provides the definition and subscription tables applicable to the different trigger types. Criteria, subscription basis and SERVORD support are also indicated.

Table 291 Trigger definition and subscription summary

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Subscription tables	Option	SERVORD
ORIGATT	OFFHKIMM	CT	TRIGITM	Line (POTS)	LENFEAT	AIN	YES
				Line (MDC, RES, IBN)	IBNFEAT		
				Line (EBS, MFT, BRI)	KSETFEAT		

Table 291 Trigger definition and subscription summary (Continued)

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Subscription tables	Option	SERVORD
INFOCOL	OFFHKDEL	CT ESCMDC ESCDIG	TRIGITM TIESCDIG	Line (POTS)	LENFEAT	AIN	YES
				Line (MDC, RES)	IBNFEAT		
				Line (EBS, MFT)	KSETFEAT		
				DISA DN	DNFEAT		
				Trunk Group IBN	TRKAIN	N/A	NO
	PRIB	ESCDIG	TRIGITM	B-channel	AINPRI		
	INTEROFF	CT DG (M) ESCDIG	TRIGITM TIESCDIG	Trunk group (POTS)	TRKAIN		
INFOANAL	SFC	CT DG (M)	TRIGITM	Line (RES)	IBNFEAT	AIN	YES
				Line (ISDN)	KSETFEAT		
				Customer Group	CUSTTIID CUSTSTN		NO
	PFC			Line (RES)	IBNFEAT		YES
				Line (ISDN)	KSETFEAT		
				Customer Group	CUSTTIID CUSTSTN		NO
	CDPCODE						
	SPECARR	CT		Line (POTS)	LENFEAT		YES
				Line (MDC, RES)	IBNFEAT		

Table 291 Trigger definition and subscription summary (Continued)

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Subscription tables	Option	SERVORD
INFOANAL	SPECARR	CT	TRIGITM	Line (EBS, MFT)	KSETFEAT	AIN	YES
				Trunk Group	TRKAIN	N/A	NO
				Customer Group	CUSTSTN CUSTTIID	AIN	
				Office	OFCVAR OFCTIID	N/A	
	ONEPLUS			Line (POTS)	LENFEAT	AIN	YES
				Line (MDC, RES)	IBNFEAT		
				Line (EBS, MFT)	KSETFEAT		
				Trunk Group	TRKAIN	N/A	NO
				Customer Group	CUSTSTN CUSTTIID	AIN	
				Office	OFCVAR OFCTIID	N/A	
	INTERNTL			Line (POTS)	LENFEAT	AIN	YES
				Line (MDC, RES)	IBNFEAT		
				Line (EBS, MFT)	KSETFEAT		
				Trunk Group	TRKAIN	N/A	NO
				Customer Group	CUSTSTN CUSTTIID	AIN	
				Office	OFCVAR OFCTIID	N/A	

Table 291 Trigger definition and subscription summary (Continued)

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Subscription tables	Option	SERVORD
INFOANAL	OPERSERV	CT	TRIGITM	Line (POTS)	LENFEAT	AIN	YES
				Line (MDC, RES)	IBNFEAT		
				Line (EBS, MFT)	KSETFEAT		
				Trunk Group	TRKAIN	N/A	NO
				Customer Group	CUSTSTN CUSTTIID	AIN	
				Office	OFCVAR OFCTIID	N/A	
	SDS	CT DG (M) ESCCN ESCEA ESCOP ESCGRP		Office	OFCVAR OFCTIID		
	N11	CT DG (M)					
	LNP	CT DG (M) ESCCN ESCEA ESCOP					
NETBUSY	AFR	CT	TRGINFO TRIGITM OFR tables	Line (POTS)	LENFEAT	AIN	YES
				Line (MDC, RES)	IBNFEAT		

Table 291 Trigger definition and subscription summary (Continued)

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Subscription tables	Option	SERVORD
NETBUSY	AFR	CT	TRGINFO TRIGITM OFR tables	Line (EBS, MFT)	KSETFEAT	AIN	YES
				DISA DN	DNFEAT		NO
				Trunk Group	TRKAIN	N/A	
				Customer Group	CUSTSTN CUSTTIID	AIN	
				Office	OFCVAR OFCTIID	N/A	
OCPB	OCPB	ESCDN ESCIDDD ESCARR ESCLATA ESCFI ESCOP ESCCN ESCDP	TRIGITM TIESCDIG	Line (POTS)	LENFEAT	AIN	YES
				Line (MDC, RES)	IBNFEAT		
				Line (EBS, MFT, BRI)	KSETFEAT		
				Trunk Group	TRKAIN	N/A	NO
				Customer Group	CUSTSTN CUSTTIID	AIN	
ONOA	ONOA	ESCDN ESCIDDD ESCARR ESCLATA ESCFI ESCOP ESCCN ESCDP	TRIGITM TIESCDIG OCCINFO	Line (POTS)	LENFEAT		YES
				Line (MDC, RES)	IBNFEAT		
				Line (EBS, MFT, BRI)	KSETFEAT		
				Trunk Group	TRKAIN	N/A	NO
				Customer Group	CUSTSTN CUSTTIID	AIN	

Table 291 Trigger definition and subscription summary (Continued)

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Subscription tables	Option	SERVORD
TERMATT	TERMATT	CT	TRIGITM	DN	DNFEAT	AINDN	YES
				Virtual DN			
TBUSY	TBUSY			DN			
TNOA	TNOA						
TRA	TRA						
TKTERM	TERMATT	CT	TRIGITM	Trunk Group	TRKAIN		No

Note 1: (M) = mandatory.

Note 2: SERVORD = YES. Indicates the table can be datafilled through SERVORD or table control. Tables LENFEAT, IBNFEAT, and KSETFEAT can only be updated through SERVORD.

Note 3: SERVORD = NO. Indicates the table cannot be datafilled through SERVORD, but only through table control.

15.3 Call type criterion

Call type (CT) is an optional criterion for all AIN Service Enablers triggers being discussed. CT is used to specify the type of call (voice or data) that can trigger and send a query message. When not specified, either voice or data calls trigger.

Whether a call is voice or data depends on the bearer capability (BC) parameter of the call. The BC parameter contains the bearer capability of the call that encountered the trigger. This parameter is mandatory in all outgoing messages.

The DMS CT symbols are VBINFO for voice and CMDATA for data.

Whether a call is a voice call or a data call depends on the TRANSFER CAPABILITY value of each BCNAME, that is defined by field XFERCAP in table BCDEF.

Table 292 is a summary of an incoming BC, its corresponding BC in an AIN outgoing message, its XFERCAP value, and the type of call. Given an incoming BC, the table can be used to determine whether the call is voice or data.

Table 292 Bearer capability (BC) summary

Incoming BC	Outgoing AIN BC	XFERCAP field in table BCDEF	Voice or Data
SPEECH	SPEECH	SPEECH	Voice
3_1KHZ	f32kHZaudio	AU3_1KHZ	
7_KHZ	f7kHzaudio	AU7KHZ	
64K_RATE_AD_DATA	b56kbps	UNRESDIG	Data
56K_DATA			
DATA_UNIT			
64K_DATA	b64kbps		
64K_X25	There is no AIN value defined for these; send the call to treatment.		
WIDEBAND		N/A	
64K_RES			

15.4 Multiple Trigger item assignments

This section describes lines and DNs that contain more than one trigger item assignment.

AIN option can contain up to 16 trigger item assignments per line. AINDN option can contain up to 16 trigger item assignments per DN.

In the following example, DN 6136216702 has 12 AIN trigger item assignments and 14 AINDN trigger item assignments. The AIN (or AINDN) option is added once to the line (or DN), but multiple assignments are allowed for each option. See Figure 67 on page 520.

To add an AIN or AINDN assignment to a line, use the SERVORD command ADO. See Section 16.2.1 “Adding the AIN or AINDN option (ADO)” on page 562.

To remove an AIN (or AINDN) assignment from a DN, use the SERVORD command DEO. See Section 16.2.3 “Deleting the trigger item assignment” on page 565.

Figure 67 on page 520 illustrates multiple trigger item assignments.

Figure 67 Multiple trigger item assignments

```
>qdn   6136216702
-------------------------------------------------------------------------------------------
DN:         6216702
TYPE: SINGLE PARTY LINE
SNPA: 613      SIG: DT          LNATTIDX: 0
LINE EQUIPMENT NUMBER:     HOST  00 1 00 23
LINE CLASS CODE:              1FR
LINE TREATMENT GROUP:       0
CARDCODE:   6X17AA     GND: N  PADGRP:  STDLN  BNV:  NL MNO:  N
PM NODE NUMBER :              144
PM TERMINAL NUMBER :      24
OPTIONS:
AIN Assigned Triggers:
( 3   OHD1  ON)    ( 3   OHD2  OFF)    ( 3   OHD3  OFF)    ( 3   OHD4  ON)
( 3   OHD5  ON)    ( 3 OHD6  ON)       ( 3   OHD7  ON)      ( 3   OHD8  OFF)
( 3   OHD9  OFF)  ( 3 OHD10  OFF)    ( 3   OHD11  OFF)   ( 3   OHD12  ON)
AINDN Assigned Triggers:
(20   TAT1  ON)    (20 TAT2  OFF)   (20 TAT3  ON)   (20 TAT4  ON)
(20   TAT5  ON)    (20 TAT6  ON)    (20 TAT7  OFF)  (20 TAT8  OFF)
(20   TAT9  ON)    (20 TAT10  ON)   (20 TAT11  ON)   (20 TAT12  OFF)
(20   TAT13  OFF)  (20 TAT14  OFF)
DGT AINDN TIID AIN TIID
OFFICE OPTIONS:
U3WC AIN OFCTRIGGRP_ALL
```

15.5 Support for the DMS trigger item interface

AIN Service Enablers implements trigger items and trigger item subscription as defined in Bellcore GR-1298, including up to 32,000 (32k) trigger item definitions or instances (tuples) for each TDP.

15.5.1 SCP Update message processing

The Update message can be used to selectively enable and disable trigger item subscriptions stored in table OFCTIID. Update messages are processed during a one night process (ONP), up until the switch of activity (SWACT) step of the ONP is initiated. After the SWACT begins, Update messages sent by the SCP are lost; no notification is sent to the SCP. Update messages are not received and processed until the SWACT is complete and the newly active side is ready to accept incoming messages from the SS7 network.

See Chapter 10: “Information revision messages” on page 313.

15.5.2 Tool support

For TRAVER support, see Section 22.14 “TRAVER and the DMS trigger item interface” on page 539.

For line query tool support, see Section 25.5 “Line query tool support for the DMS trigger item interface” on page 700.

15.5.3 ONP and data migration

The dump and restore function can be used to perform software upgrade for the DMS trigger item interface. See also Section 15.9 “AIN trigger item transition tool”.

15.5.4 Examples of DMS trigger item datafill and subscription

See the following tables:

- Section 10.17.4 on page 395, for an example of the TRIGITM table
- Section 10.7.4 on page 359, for an example of the OFCTIID table
- Section 10.3.4 on page 351, for an example of the CUSTIID table

15.6 Trigger processing precedence

When a call encounters a TDP, the SSP checks each applicable trigger item assignment to determine whether a query should be sent to the SCP. The SSP checks applicable trigger item assignments in the following order:

- trigger items that are assigned to an individual line, DN, or trunk group
- trigger items that are assigned to a PRI B-channel (for PRI B-channel agents)
- trigger items that are assigned to the agent’s customer group
- trigger items that are assigned to an office

With each applicable trigger item assignment, the SSP checks whether the trigger item is unlocked (ULK), active (ON), and whether all criteria specified for the trigger item are satisfied. When all conditions are satisfied, the SSP sends a query to the SCP.

> ***Note:*** The SSP sends a query based on the first trigger item assignment it encounters that satisfies all specified criteria.

15.7 Administering the trigger activation states

The trigger item activation state code is a part of each trigger item subscription tuple. The activation state code accepts two values: ON or OFF. Setting the activation state code to OFF disables the trigger item assigned to that agent. The call does not trigger even when all its criteria are met at run-time.

The activation state code can be modified by using the update message to selectively enable and disable trigger item assignment activation state codes.

When the DMS receives an update message, the activation state code for the specified trigger item assignment is set in accordance with the state parameter in the message. The update is also recorded in a journal file.

15.8 Datafilling for default routing

Default routing procedures are provided for a signaling connection control part (SCCP) routing error (indicated by the receipt of an SCCP return on error message) and T1 timer expiry.

> ***Note:*** The SCCP return on error message is defined in Section 6.5.5 of TR-NWT-000606, Common Channel Signaling and in Section 3 of GR-1280-CORE. Additional information regarding the associated UDTS/XUDTS messages can be found in TR-NWT-000246.

Ensure that the Default Routing option (AIN00010) is in the ON state. This is required for default routing to function. See Section 11.1 “Activating AIN SSP software” on page 401.

> ***Note:*** The AIN00010 does not have any impact if the R02 message set (AIN 0.2) is used.

Default routing functionality can be applied to the following triggers: SDS, N11, LNP, Operator_Services, One_Plus, Specified_Carrier, International, and Termination Attempt (TAT) triggers. For triggers that are not subscribed to default routing or that do not support default routing, AIN Final treatment is applied when an SCP routing error or T1 timer expiry occurs.

Default routing can be subscribed on a per trigger basis by using the options field in table TRIGITM (SDS, N11, LNP, and Termination Attempt triggers). Datafill this field with DFLTRT to subscribe a trigger to default routing. The fields that are associated with DFLTRT are as follows:

- ANN

  This specifies that an announcement should be played once default routing applies. When datafilled, the ANNIDX field applies. The ANNIDX field indicates the index of the announcement in table AINANNS to be played.

- DN

  This field indicates that the call should route to the DN specified. When datafilled, the DN field applies. The DN field can contain 3, 7, or 10 decimal digits and when no digits are required then “$” is entered in place of the digits. When no digits are specified, the call continues processing. When an inappropriate number of digits is specified or a hex digit is specified, the data entered is rejected.

- ANNDN

When this option is datafilled, then both the ANNIDX field and the DN field apply and must be datafilled.

- E911ESN

  This option is only valid for the TERMATT trigger. When datafilled, the ESN field applies. The ESN must be present in the E911ESN table. This option can be used for emergency calls. When default routing occurs during an emergency call, table E911ESN contains several PSAPs where the call can be routed.

After datafilling an option and associated fields, the user is prompted for another option. To indicate that there are no more options, enter '$'. Otherwise, more options are expected.

15.8.1 Routing characteristics

Since default routing allows call processing to continue when a response is received from the SCP, it uses the same datafill setup that is required for routing in Analyze_Route and Forward_Call responses, and it also uses the same datafill setup that is required for playing an announcement in Send_To_Resource response. See Chapter 41: "Analyze_Route response" on page 957, Chapter 46: "Forward_Call response" on page 1033, and Chapter 48: "Send_To_Resource response" on page 1043.

15.9 AIN trigger item transition tool

The transition tool, or data conversion tool, automates the conversion of the trigger group datafill to functionally equivalent trigger item datafill. It exists as a CI increment (AINTITT) with several commands.

The actual transition of the data occurs in several steps, and this process must be repeated for several levels of AIN subscription (unsubscribed trigger groups, office, customer group, and individual subscribers).

The capability of converting a single subscription level at a time permits the telephone operating company to convert to trigger items in multiple phases, when a multi-phase approach is more suitable for its switch operations. However, it is recommended that the operating company convert all subscription levels to trigger items at once, when possible, in order to simplify AIN administration and maintenance.

When the telephone operating company has deployed a standard set of AIN trigger groups to a given switch, the entire set must be converted to trigger items, even when there are currently no subscribers to some of the trigger groups. Thus, the AIN trigger item transition tool supports a pseudo-subscription level for the conversion of unsubscribed trigger groups. See Section 15.9.2 "CREATE command" on page 525.

Note 1: AIN subscription updates and AIN trigger definition updates are blocked when the CREATE command is executed, until either the SUBSCRIBE, CLEAR, or QUIT command is complete.

Note 2: The transition tool should only be activated during low traffic periods, as the tool is adding and deleting tuples from AIN trigger definition and subscription tables.

The following sections discuss the transition tool:

- using Toolsup to access AINTITT
- Create
- Display
- Subscribe
- Activate
- Clear
- Changetiid
- Disable
- Enable
- Quit
- AIN subscription blocking
- converting an office to trigger items

15.9.1 Using Toolsup to access AINTITT

The AINTITT tool is password protected in non-lab environments. To enable access to AINTITT, enter the TOOLSUP utility and use the ACCESS command. Figure 68 illustrates the use of TOOLSUP to enable AINTITT. AINTITT employs the TAS password feature to control access. The status and history commands provide information on the status and execution history of AINTITT. Figure 69 on page 525 illustrates the use of the status and history commands.

Figure 68 Enabling access to AINTITT through TOOLSUP

```
TOOLSUP:
>access on aintitt
Enter Password:
>79299334EWC

AINTITT permitted

AINTITT access will expire 48 hours from now.

                  ** WARNING **
You have permitted access to command(s) that require
skilled and knowledgeable users. Proper use is required
to avoid possible service degradations. Please ensure
that only fully trained and qualified personnel
proceed.

>
```

Figure 69 Status and history of AINTITT

```
TOOLSUP:
>history of aintitt

AINTITT          Action                                Time                   Who
Actions: 5
                 Permitted                             1998/01/14 18:23:58    OPERATOR
                 Start                                 1998/01/14 18:40:31    OPERATOR
                 Stop                                  1998/01/14 19:09:18    OPERATOR
                 Start                                 1998/01/14 19:09:24    OPERATOR
                 Stop                                  1998/01/14 19:09:27    OPERATOR

>status of aintitt

Name               Status              Owner(s)

AINTITT            Available
>
```

15.9.2 CREATE command

The CREATE command is the first step in the multistep process of converting one level of subscription to the trigger item provisioning interface. It is applicable to the office, customer groups, and individual subscribers. The CREATE command can also be used to convert unsubscribed trigger groups.

ATTENTION
Once the OFFICE, CUSTGROUP, or INDIVIDUAL subscription level is converted, the UNSUBSCRIBED trigger groups cannot be converted. When planning to convert unsubscribed trigger groups, they must be converted before any other subscription level.

The CREATE command finds all trigger groups that are subscribed at the specified subscription level and creates a functionally equivalent set of trigger items. The CREATE command converts any escape information in tables TRIGESC and TRGSIESC to table TIESCDIG, when applicable for the specified subscription level. The CREATE command converts any PODPATTR table entries to the TRIGITM LARP option, as it converts the applicable SDS trigger groups to trigger items.

When an agent is subscribed to a trigger group, the trigger group can contain triggers that are not applicable for the agent. For example, a trigger group assigned to the office can contain termination attempt (TERMATT) triggers, but TERMATT triggers are not encountered during actual calls. The CREATE command creates functionally equivalent trigger items for triggers in the trigger group, whether or not the trigger is applicable for the agent. Inapplicable trigger item assignments are detected during the execution of the SUBSCRIBE command. See Section 15.9.4 “SUBSCRIBE command” on page 537.

The CREATE command has two parameters: subscription level, and prompt mode. For the subscription level, enter either UNSUBSCRIBED, OFFICE, CUSTGROUP, or INDIVIDUAL. UNSUBSCRIBED specifies that all triggers in trigger groups that are not subscribed to an agent are converted to trigger items. OFFICE specifies that all triggers assigned to the office are converted to trigger items; CUSTGROUP specifies that all triggers assigned to customer groups are converted to trigger items; INDIVIDUAL specifies that all triggers assigned to lines, trunk groups, and DNs are converted to trigger items.

> ***Note 1:*** Once the CREATE UNSUBSCRIBED command is complete, all unsubscribed trigger groups are converted to functionally equivalent trigger items. The conversion is complete; there are no additional steps required to convert the unsubscribed trigger groups.
>
> ***Note 2:*** At the end of the execution of the CREATE UNSUBSCRIBED command, a list of the converted trigger groups is displayed, along with the functionally equivalent trigger items created by the transition tool.

Note 3: Once the OFFICE, CUSTGROUP, or INDIVIDUAL subscription level is converted, the UNSUBSCRIBED trigger groups cannot be converted. When planning to convert unsubscribed trigger groups, they must be converted before any other subscription level.

For the prompt mode parameter, enter either PROMPT or NOPROMPT. Using the prompt option requires the user to provide names for each new trigger item. The noprompt option uses the naming conventions described in Section 15.9.2.2 “Naming convention” on page 528.

After entering both parameters to the CREATE command, a message is displayed that asks whether duplicate trigger items should be automatically deleted. See Figure 73 “Trigger groups with duplicate triggers” on page 532.

Figure 70 Prompt for duplicate trigger item checking

```
>create unsubscribed noprompt
This command is not reversible.  All unsubscribed
trigger groups are converted to trigger items
Do you wish to continue?
Please confirm (“YES”, “Y”, “NO”, or “N”):
>y
Converting to trigger items can create duplicate
items with the same data in table TRIGITM.
Do you wish to have these duplicate trigger items
automatically deleted?
Please confirm (“YES”, “Y”, “NO”, or “N”):
>
```

Two trigger items are considered to be duplicates when their definitions are identical, with the exception of the trigger item ID and the administrative state code. To disable duplicate checking, enter NO at the prompt. To enable duplicate checking, enter YES at the prompt. See Section 15.9.2.3 “Duplication of trigger items” on page 530.

When the CREATE command is executed, datafill operations in the trigger definition tables is blocked. AIN subscription, through the table editor and SERVORD, is also blocked. Trigger definition and AIN subscription is restored when the SUBSCRIBE, CLEAR, or QUIT command completes execution. For a complete list of affected tables, see Section 15.9.11 “AIN subscription blocking” on page 543.

15.9.2.1 Trigger group to trigger item mapping table

For each trigger group that is subscribed at the specified subscription level, the CREATE command creates functionally equivalent trigger items, and stores a list of these trigger items in a mapping table. The mapping from converted trigger groups to the corresponding trigger items can be viewed using the DISPLAY command. See Section 15.9.3 “DISPLAY command” on page 536.

As an example, when the trigger group named OHI_GRP contains an Off-Hook_Immediate trigger that maps to one trigger item, the mapping table contains a link from the trigger group name OHI_GRP to the new tuple (ohi1 for example). This is demonstrated in Figure 71.

Figure 71 Trigger group to trigger item mapping table

```
Trigger Group Tuples:

OHI_GRP ORIGATT
(OFFHKIMM ( CT VBINFO) $ JAZZINFO) $

TESTGRP ORIGATT
(OFFHKIMM ( CT VBINFO) $ JAZZINFO) $

TESTGRP INFOANAL
(PODPFEAT ( DG DIGPODP1) $ NIL)$

Mapping Table:

AINGRP          Trigger Items
----------------------------------------------
-
OHI_GRP -> (1 OHI1)
TESTGRP -> (1 OHI1) (4 PFC1)
```

15.9.2.2 Naming convention

When using the CREATE command in NOPROMPT mode, the transition tool automatically generates names for each trigger item it creates. The generated names are based on the trigger type and digits for digit based triggers, and based on integer numbering for nondigit based triggers. The abbreviations used in the generated names are shown in Table 293. Where possible, the trigger type code attribute defined in GR-1298, Appendix A: Keyword Definitions is used.

Table 293 Trigger type abbreviations

Trigger Type	Non Digit Based Abbreviation	Digit Based Abbreviation
Off-Hook Immediate	OHI	
Off-Hook Delay	OHD	
Shared Interoffice Trunk	SIT	I
Specific Feature Code	SFC	F

Table 293 Trigger type abbreviations (Continued)

Trigger Type	Non Digit Based Abbreviation	Digit Based Abbreviation
Public Feature Code	PFC	P
Customized Dialing Plan	CDP	C
Specific Digit String	SDS	S
N11	N11	N
Local Number Portability	LNP	L
AFR	AFR	
O Called Party Busy	OCPB	
O No Answer	ONA	
Termination Attempt	TA	
Term_Resource_Available	TRA	

For the digit based abbreviation, the trigger item name is based on the trigger type abbreviation and the NPANXX. When the digits criterion is longer than six digits, the trigger item name is composed of the trigger type abbreviation, the NPANXX and a character (from A to Z). When there are more than 26 triggers with the equivalent NPANXX, or when there are duplicate trigger types and digits criteria, the naming reverts to the non digits based naming convention using a counter. Table 294 contains examples of names generated by the transition tool.

Table 294 Example of the naming convention

Trigger Type	Digits Criteria (when applicable)	TI Name
Off Hook Immediate	n/a	OHI1
Off Hook Immediate	n/a	OHI2
Specific Digit String	613621	S613621
Specific Digit String	6136210000	S613621A
Specific Digit String	6136210001	S613621B
Specific Digit String	6136210025	S613621Z
Specific Digit String	6136210026	SDS1
N11	211	N211
N11	911	N911

Table 294 Example of the naming convention (Continued)

Trigger Type	Digits Criteria (when applicable)	TI Name
LNP	916967	L916967
LNP	916968	L916968
LNP	916967	LNP1
CDPCODE	587	C587
CDPCODE	588	C588
CDPCODE	B234	CB234
CDPCODE	B360	CB360

The CREATE command locates trigger groups for the OFFICE, CUSTGROUP, and INDIVIDUAL subscription levels by searching through the AIN subscription tables for AIN subscriptions. For the UNSUBSCRIBED subscription level, it searches table TRIGGRP for unsubscribed trigger groups. The functionally equivalent trigger items for each trigger group are created in the same order that the trigger groups are found. As this order is not the same on different switches, the resulting set of trigger items do not have the same trigger item IDs across two switches, even when the trigger group definitions are the same on both switches.

15.9.2.3 Duplication of trigger items

Two trigger items are considered to be duplicates when their definitions are identical, with the exception of the trigger item ID and the administrative state code. With duplicate checking turned off, the CREATE command creates functionally equivalent trigger items for every trigger group it encounters, without checking for duplicate trigger items. When duplicate checking is turned on, the CREATE command eliminates some duplicate trigger items, but not necessarily all duplicates.

Tuples in table TRIGGRP contain a variable length list of trigger entries. Figure 72 provides a sample trigger entry in a trigger group.

Figure 72 Illustration of a trigger entry in a trigger group

```
Table TRIGGRP:

TRIGNAME  TDP        TRIGDATA
                     (TRIGGER  CRITERIA    INFONAME)
---------------------------------------------------------
LINEGRP1  INFOCOL    (OFFHKDEL $           SHLR1) $

LINEGRP1  INFOANAL   (PODPFEAT DG PFCDIG $ NIL)       Trigger
                                                      entry
                     (SFC      DG SFCDIG $ NIL) $
```

When the CREATE command is executed with duplicate checking turned on, and two tuples in table TRIGGRP have identical trigger entries, then one set of trigger items is created for both trigger groups; no duplicate trigger items are created. Otherwise, separate trigger items are created for both trigger groups, even when the resulting trigger items contain duplicates.

Figure 73, "Trigger groups with duplicate triggers" on page 532 shows two trigger groups. Taking each trigger entry in turn, the following occurs:

- One functionally equivalent trigger item is created for the Off-Hook Delay triggers in trigger groups LINEGRP1 and LINEGRP2, as the trigger entries are identical.
- One set of functionally equivalent trigger items is created for the Specific Feature Code triggers in trigger groups LINEGRP1 and LINEGRP2, as the trigger entries are identical.
- Two separate sets of functionally equivalent trigger items are created for the Public Feature Code triggers in trigger groups LINEGRP1 and LINEGRP2, as these two trigger entries differ — the criteria are different.

  In this example, when there are analogous entries in table TRIGDIG for the PFCDIG and DIG1 DIGNAMEs, then the two separate sets of trigger items contain duplicate trigger items.

Figure 73 Trigger groups with duplicate triggers

```
Table TRIGGRP:

TRIGNAME  TDP       TRIGDATA
                    (TRIGGER  CRITERIA    INFONAME)
___________________________________________________

LINEGRP1  INFOCOL   (OFFHKDEL $           SHLR1) $
LINEGRP1  INFOANAL  (PODPFEAT DG PFCDIG $ NIL)
                    (SFC      DG SFCDIG $ NIL) $
LINEGRP2  INFOCOL   (OFFHKDEL $           SLHR1) $
LINEGRP2  INFOANAL  (PODPFEAT DG DIG1 $   NIL)
                    (SFC      DG SFCDIG $ NIL) $
```

Duplicate trigger item detection is not performed over multiple invocations of the CREATE command. When the CREATE command is executed twice, the second execution can create trigger items that are duplicates of trigger items that were created the first time; duplicate trigger items between the two executions of the CREATE command are not detected.

For example, consider the case where the trigger group LINEGRP1 is unsubscribed, and the trigger group LINEGRP2 is subscribed to a line. Note that both trigger groups contain essentially the same Specific Feature Code triggers, as their trigger entries for the Specific Feature Code trigger type are the same. When the CREATE command is used to convert the unsubscribed trigger groups, the CREATE UNSUBSCRIBED command will create a set of Specific Feature Code trigger items that are functionally equivalent to the Specific Feature Code triggers in the LINEGRP1 and LINEGRP2 trigger groups. When the individual subscription level is subsequently converted, at any later time, then the CREATE INDIVIDUAL command will create another set of Specific Feature Code trigger items that is a duplicate of the set of Specific Feature Code trigger items created by the CREATE UNSUBSCRIBED command.

15.9.2.4 PODPATTR conversion

In the trigger group provisioning interface, table PODPATTR is used to specify overriding line attributes during response processing. In the trigger item provisioning interface, this same functionality is provided by the LARP option through table TRIGITM. Overriding line attributes are defined by the following fields: LINEATTR, XLAPLAN, RATEAREA, PIC, and LPIC.

During the CREATE command of the trigger item transition tool, the digits criteria of SDS triggers in a trigger group are matched against the keys of PODPATTR tuples. When a match is found, the TRIGITM tuple created by the transition tool has the LARP option datafilled with the overriding line attributes specified in the PODPATTR tuple with REDIR set to ‘Y’ and

FWDATTR set to ‘N’. When no match is found, the TRIGITM tuple does not have the LARP option datafilled.

A match is determined by the digits criteria of the trigger exactly matching the key of PODPATTR. When an exact match is not found, then the best partial match between the digits criteria of the trigger and the less-specific key of the PODPATTR tuple is considered.

Partial matches between the digits criteria of the trigger and the more-specific key of the PODPATTR tuple are not converted.

Figure 74 on page 533 provides an example of trigger groups with PODPATTR and the converted trigger items. TRIGDIG with digits 6136213321 finds an exact match with PODPATTR with digits 6136213321, and the resulting TRIGITM has the line attributes specified by PODPATTR. TRIGIDIG with digits 6136455399 finds a partial match with PODPATTR 613645. TRIGDIG with digits 613722 does not find a match with PODPATTR, therefore the resulting TRIGITM does not have the LARP option datafilled. TRIGDIG with digits 819 finds an exact match with PODPATTR 819.

Figure 74 Example of trigger groups with PODPATTR and converted trigger items

```
TABLE TRIGDIG
PODPDIG    PODP    6136213321    . . .
PODPDIG    PODP    6136455399    . . .
PODPDIG    PODP    613722        . . .
PODPDIG    PODP    819           . . .

TABLE PODPATTR
6136213321   1   XLA1   LT1   NILC   NILC
613621       2   XLA2   LT2   NILC   NILC
613645       3   XLA3   LT3   NILC   NILC
6137225030   4   XLA4   LT4   NILC   NILC
819          5   XLA5   LT5   NILC   NILC
8192231234   6   XLA6   LT6   NILC   NILC

TABLE TRIGITM
4   S613621A   SDS   (DG 6136213321)   $ . . .
                                        (LARP 1 XLA1 LT1 NILC NILC) $

4   S613645A   SDS   (DG 6136455399)   $ . . .
                                        (LARP 3 XLA3 LT3 NILC NILC) $
4   S613645A   SDS   (DG 6136455399)   $ . . .
4   S613722    SDS   (DG 613722)       $ . . .
                                        $
4   S819       SDS   (DG 819)          $ . . .
                                      (LARP 5 XLA5 LT5 NILC NILC)    $
```

The conversion of PODPATTR does not add, change, or delete any tuples in table PODPATTR. Any PODPATTR tuple that is not matched to at least one trigger group is displayed. In the (previous) example, PODPATTR tuples 2, 4, and 6 are not matched and are output to the display.

PODPATTR conversion messages are not displayed when all of the PODPATTR tuples are converted, table PODPATTR is empty, or the dump side is from the NA012 release or later. See Figure 75.

Figure 75 provides displayed PODPATTR conversion messages.

Figure 75 PODPATTR conversion messages during an ONP

```
Note:PODPATTR table is obsolete for trigger items.
Tuples in PODPATTR are converted to the LARP option for appropriate
trigger items.

Printing unconverted PODPATTR keys.
These tuples were not converted to the LARP option on a trigger item as an
appropriate trigger was not found.
PODPATTR tuple unconverted, key = 613621
PODPATTR tuple unconverted, key = 6137225030
PODPATTR tuple unconverted, key = 8192231234
End of unconverted PODPATTR.
```

The conversion of PODPATTR to the equivalent LARP option in table TRIGITM is performed during the CREATE command. No extra steps are required for this conversion of PODPATTR.

15.9.2.5 Sample execution of the CREATE command

Figure 76 illustrates a sample execution of the CREATE command.

Figure 76 Sample execution of the CREATE command

```
AINTITT:
>create individual noprompt
This command is not reversible.  All unsubscribed
trigger groups are converted to trigger items
Do you wish to continue?
Please confirm ("YES", "Y", "NO", or "N"):
>y
Converting to trigger items can create duplicate
items with the same data in table TRIGITM.
Do you wish to have these duplicate trigger items
automatically deleted?
Please confirm ("YES", "Y", "NO", or "N"):
>y
Beginning creation of INDIVIDUAL triggers


Searching LENFEAT for subscribed Trigger Groups.

 Found AIN subscription to Trigger Group LNTRIGGRP1_AUTO
  Now converting Trigger Group LNTRIGGRP1_AUTO at ORIGATT TDP
          - Trigger OFFHKIMM

 Found AIN subscription to Trigger Group LNTRIGGRP2_AUTO
  Now converting Trigger Group LNTRIGGRP2_AUTO at INFOCOL TDP
  Converting trigger escapes stored in TRIGESC.
          - Trigger OFFHKDEL

 Found AIN subscription to Trigger Group ENAUTO_OHI
  Now converting Trigger Group ENAUTO_OHI at ORIGATT TDP
          - Trigger OFFHKIMM

 Found AIN subscription to Trigger Group ENAUTO_OHD
  Now converting Trigger Group ENAUTO_OHD at INFOCOL TDP
          - Trigger OFFHKDEL

Searching IBNFEAT for subscribed Trigger Groups.

 Found AIN subscription to Trigger Group ENAUTO_AFR
  Now converting Trigger Group ENAUTO_AFR at NETBUSY TDP
          - Trigger AFR
WARNING:  The Service Logic Host Routing (SLHR) information will not
          be used for the AFR trigger.

Searching KSETFEAT for subscribed Trigger Groups.
No additional Trigger Groups found.
```

Figure 77 Sample execution of the CREATE command (continued)

```
Searching DNFEAT for subscribed Trigger Groups.

 Found AIN subscription to Trigger Group DNTRIGGRP_ZOOT
  Now converting Trigger Group DNTRIGGRP_ZOOT at TERMATT TDP
          - Trigger TERMATT

 Found AIN subscription to Trigger Group DNTRIGGRP1_AUTO
  Now converting Trigger Group DNTRIGGRP1_AUTO at TERMATT TDP
          - Trigger TERMATT

 Found AIN subscription to Trigger Group ENAUTO_DN
  Now converting Trigger Group ENAUTO_DN at TERMATT TDP
          - Trigger TERMATT

 Found AIN subscription to Trigger Group DNTRIGGRP1_ZOOT
  Now converting Trigger Group DNTRIGGRP1_ZOOT at TERMATT TDP
          - Found an equivalent entry in the mapping.

Searching TRKAIN for subscribed Trigger Groups.

 Found AIN subscription to Trigger Group TRKTRIGGRP2_AUTO
  Now converting Trigger Group TRKTRIGGRP2_AUTO at INFOCOL TDP
          - Trigger OFFHKDEL

 Found AIN subscription to Trigger Group TRKTRIGGRP_SHAIO
  Now converting Trigger Group TRKTRIGGRP_SHAIO at INFOCOL TDP
          - Trigger INTEROFF, digname SHAIODIG

Creation of INDIVIDUAL triggers is complete
************************************************************************
```

15.9.3 DISPLAY command

The DISPLAY command lists the trigger groups that have been converted during the CREATE step. The DISPLAY command also shows the functionally equivalent trigger items that have been created for each converted trigger group.

When the SUBSCRIBE command is executed, agents that are subscribed to one of the listed trigger groups are subscribed to the corresponding trigger items shown by the DISPLAY command.

> ***Note 1:*** The DISPLAY command must be executed after the CREATE command and before the SUBSCRIBE or CLEAR commands, in order to see the list of converted trigger groups and their corresponding trigger items.
>
> ***Note 2:*** The output of the DISPLAY command appears only on the MAP display. To preserve a record of the mapping between converted trigger groups and their functionally equivalent trigger items, start recording the session to a log file, and execute the DISPLAY command.

15.9.3.1 Sample execution of the DISPLAY command

Figure 78 illustrates a sample execution of the DISPLAY command.

Figure 78 Sample execution of the DISPLAY command

```
AINTITT:
>display
AINGRP              Trigger Items
----------------------------------------------------------------------
LNTRIGGRP1_AUTO  -> (1  OHI1    )
LNTRIGGRP2_AUTO  -> (3  OHD1    )
ENAUTO_OHI       -> (1  OHI2    )
ENAUTO_OHD       -> (3  OHD2    )
ENAUTO_AFR       -> (17 AFR1    )
DNTRIGGRP_ZOOT   -> (20 TA1     )
DNTRIGGRP1_AUTO  -> (20 TA2     )
ENAUTO_DN        -> (20 TA3     )
DNTRIGGRP1_ZOOT  -> (20 TA4     )
TRKTRIGGRP2_AUTO -> (3  OHD3    )
TRKTRIGGRP_SHAIO -> (3  I011110 ) (3  I022110 ) (3  I033110 )
      (3  I044110 ) (3  I055110 ) (3  I066110 ) (3  I077110 )
      (3  I088110 ) (3  I099110 )
**********************************************************************
```

15.9.4 SUBSCRIBE command

The SUBSCRIBE command performs the next step in the transition process. The SUBSCRIBE command must be executed after the CREATE command.

The SUBSCRIBE command operates on the same level of subscription that was operated on by the previous command. For example, when the CREATE command is performed on individual subscriptions, the SUBSCRIBE command converts all AIN subscriptions in tables LENFEAT, IBNFEAT, KSETFEAT, DNFEAT, and TRKAIN to functionally equivalent AIN trigger item subscriptions. For customer group subscriptions, the functionally equivalent AIN trigger items is assigned to each customer group in table CUSTTIID. For the office-wide subscription, the functionally equivalent AIN trigger items are assigned to the office in table OFCTIID. The SUBSCRIBE command is the last step in converting individual line and trunk subscriptions.

To see the AIN trigger items that are used to replace subscriptions to a particular AIN trigger group, use the DISPLAY command before using the SUBSCRIBE command.

The trigger assignment activation state supported in the trigger group data model is stored on a per trigger type and bearer capability basis for a given subscriber. The trigger item assignment activation state is stored on a per trigger item basis for a given subscriber. The transition tool initializes the trigger item assignment activation state to the value of the trigger assignment activation state for the trigger type in question and the ‘Speech’ bearer capability.

> ***Note:*** When the trigger assignment activation states for a given agent have not changed, either using the CHANGESTATE command in the AINCI CI directory, or the Update_Request message, then the agent's trigger activation states are 'ON', by default.

A given agent can be subscribed to a trigger group with triggers that are not applicable to the agent. For example, the trigger group assigned to the office can contain a TERMATT trigger. When the SUBSCRIBE command is executed, full subscription checking is performed as each trigger item is assigned to each agent. Thus, for a given agent, some of the trigger items that are functionally equivalent to that agent's trigger group can fail subscription checking and are not assigned to the agent. A message displays on the screen, indicating that the trigger item in question is not valid for the given agent; this message is the same message that is displayed when the trigger item is assigned manually by telephone operating company personnel.

> ***Note:*** Before executing the SUBSCRIBE command, the output of the MAP terminal should be logged to a file in order to capture any error or warning messages that can appear as the trigger items are assigned to AIN agents.

When all of the functionally equivalent trigger items for a particular AIN agent's subscription are incompatible with the AIN agent, the AIN subscription for that agent is deleted.

> ***Note:*** The maximum number of triggers for individual subscription is 16. When an individual is subscribed to a trigger group with more than 16 triggers, only the first 16 valid trigger items are subscribed.

When the SUBSCRIBE command completes execution, AIN trigger definition and subscription is re-enabled. See Section 15.9.11 "AIN subscription blocking" on page 543.

15.9.4.1 Sample execution of the SUBSCRIBE command

Figure 79 on page 539 illustrates a sample execution of the SUBSCRIBE command.

Figure 79 Sample execution of the SUBSCRIBE command

```
AINTITT:
>subscribe
This command is not reversible.  All individual line
subscriptions are converted to trigger items
Do you wish to continue?
Please confirm ("YES", "Y", "NO", or "N"):
>y
*************************************************************************
Beginning subscription of INDIVIDUAL triggers


Changing Trigger Group subscription to Trigger Item subscription for LENFEAT.
  - LNTRIGGRP1_AUTO in LENFEAT tuple HOST  00 0 01 06  S      AIN
  - ENAUTO_OHI in LENFEAT tuple HOST  00 0 14 22  S      AIN
  - ENAUTO_OHD in LENFEAT tuple HOST  00 0 14 23  S      AIN
  - LNTRIGGRP2_AUTO in LENFEAT tuple HOST  02 0 02 14  S      AIN
  - LNTRIGGRP1_AUTO in LENFEAT tuple HOST  02 0 08 15  S      AIN
  - LNTRIGGRP2_AUTO in LENFEAT tuple HOST  02 0 15 16  S      AIN
  - ENAUTO_OHD in LENFEAT tuple HOST  02 0 15 17  S      AIN

Changing Trigger Group subscription to Trigger Item subscription for IBNFEAT.
  - ENAUTO_OHI in IBNFEAT tuple HOST  00 0 00 11 0      AIN
  - ENAUTO_AFR in IBNFEAT tuple HOST  00 0 06 11 0      AIN
  - ENAUTO_OHD in IBNFEAT tuple HOST  02 0 14 14 0      AIN
  - LNTRIGGRP1_AUTO in IBNFEAT tuple HOST  02 0 14 16 0      AIN
  - LNTRIGGRP2_AUTO in IBNFEAT tuple HOST  02 0 14 23 0      AIN

Changing Trigger Group subscription to Trigger Item subscription for KSETFEAT.
  - ENAUTO_OHI in KSETFEAT tuple HOST  00 0 12 21  1      AIN
  - ENAUTO_OHD in KSETFEAT tuple HOST  00 0 12 22  1      AIN
  - LNTRIGGRP2_AUTO in KSETFEAT tuple HOST  00 0 13 13  1      AIN
  - LNTRIGGRP1_AUTO in KSETFEAT tuple HOST  00 0 13 25  1      AIN

Changing Trigger Group subscription to Trigger Item subscription for DNFEAT.
  - DNTRIGGRP_ZOOT in DNFEAT tuple 613     621     1414
  - DNTRIGGRP1_AUTO in DNFEAT tuple 613     621     6100
  - ENAUTO_DN in DNFEAT tuple 613     621     6111
  - DNTRIGGRP1_AUTO in DNFEAT tuple 613     621     6131
  - ENAUTO_DN in DNFEAT tuple 613     621     7133
  - DNTRIGGRP1_AUTO in DNFEAT tuple 613     621     7141
  - ENAUTO_DN in DNFEAT tuple 613     621     7146
  - DNTRIGGRP1_AUTO in DNFEAT tuple 613     722     6137
  - ENAUTO_DN in DNFEAT tuple 613     722     6340
  - DNTRIGGRP1_AUTO in DNFEAT tuple 613     722     6383
  - ENAUTO_DN in DNFEAT tuple 613     722     6520
  - DNTRIGGRP1_AUTO in DNFEAT tuple 613     722     6540
  - DNTRIGGRP_ZOOT in DNFEAT tuple 213     257     2000

Changing Trigger Group subscription to Trigger Item subscription for TRKAIN.
  - TRKTRIGGRP2_AUTO for trunk group AINTAT_IBN317TI1
  - TRKTRIGGRP_SHAIO for trunk group AINISUPITEAIC3
  - TRKTRIGGRP2_AUTO for trunk group AUTO_OHDLOOPIC

Subscription of INDIVIDUAL triggers is complete
*************************************************************************
```

15.9.5 ACTIVATE command

This command is the last step for converting the office and customer group AIN subscriptions. This step is not required for individual subscriptions. The ACTIVATE command must be performed after the SUBSCRIBE command. The ACTIVATE command activates the trigger item subscriptions for the office and customer groups.

The ACTIVATE command has one parameter: subscription level. Enter either OFFICE or CUSTGROUP. When OFFICE is specified, the AIN_OFFICE_TRIGGRP office parameter in table OFCVAR is set to ‘TIID’, thereby activating the office-wide trigger item subscription. When CUSTGROUP is specified, then each AIN subscription in table CUSTSTN is set to ‘TIID’, thereby activating the AIN trigger item subscriptions for all customer groups.

15.9.5.1 Sample execution of the ACTIVATE command

Figure 80 illustrates a sample execution of the ACTIVATE command.

Figure 80 Sample execution of the ACTIVATE command

```
AINTITT:
>activate custgroup
This command is not reversible.  It will activate
all Customer Group based trigger items datafilled
in table CUSTSTN.  Do you wish to continue?
>Please confirm ("YES", "Y", "NO", or "N"):
>y
************************************************************************
Beginning activation of CUSTGROUP triggers

Activating Trigger Item subscription for Customer Groups.
  - Customer Group COMKODAK
  - Customer Group MDC204
  - Customer Group MDC709
  - Customer Group MDC916
  - Customer Group RESG200
  - Customer Group RESG204
  - Customer Group RESG252
  - Customer Group RESG253
  - Customer Group RESG262
  - Customer Group RESG263
  - Customer Group RESG709
  - Customer Group RESG916

Activation of CUSTGROUP triggers is complete
************************************************************************
```

15.9.6 CLEAR command

This command clears the work performed by the CREATE command.

This command removes all trigger items performed by the last execution of the CREATE command. When the CLEAR command completes execution, AIN trigger definition and subscription is re-enabled. See Section 15.9.11 “AIN subscription blocking” on page 543 for a complete list of affected tables.

It is recommended that the CLEAR command be executed after the CREATE command when an error occurs. It can also be executed after the CREATE command should the telephone operating company personnel wish to abort the conversion process after executing the CREATE command.

15.9.6.1 Sample execution of the CLEAR command

Figure 81 on page 541 illustrates a sample execution of the CLEAR command.

Figure 81 Sample execution of the CLEAR command

```
AINTITT:
>clear

There are created trigger items in the mapping.
Do you really want to delete them?
Please confirm ("YES", "Y", "NO", or "N"):
>y
Removing created trigger items from table TRIGITM.
Now deleting trigger items for group LNTRIGGRP1_AUTO.
Now deleting trigger items for group LNTRIGGRP2_AUTO.
Now deleting trigger items for group ENAUTO_OHI.
Now deleting trigger items for group ENAUTO_OHD.
Now deleting trigger items for group ENAUTO_AFR.
Now deleting trigger items for group DNTRIGGRP_ZOOT.
Now deleting trigger items for group DNTRIGGRP1_AUTO.
Now deleting trigger items for group ENAUTO_DN.
Now deleting trigger items for group DNTRIGGRP1_ZOOT.
Now deleting trigger items for group TRKTRIGGRP2_AUTO.
Now deleting trigger items for group TRKTRIGGRP_SHAIO.
Removing converted trigger escapes in TIESCDIG.
The trigger group to trigger item mapping has been cleared.

************************************************************************
```

15.9.7 CHANGETIID command

This command allows the user to change the trigger item name portion of a trigger item ID. The CHANGETIID command is used to modify the trigger item names for any trigger item. In particular, it can be used to modify the trigger item names for the trigger items that were created by the transition tool during the execution of the CREATE command.

This command can be executed at any time — before, during, or after conversion to trigger items. The CHANGETIID command can still be used after the DISABLE command has been used.

15.9.7.1 Sample execution of the CHANGETIID command

Figure 82 provides a sample execution of the CHANGETIID command.

Figure 82 Sample execution of the CHANGETIID command

```
AINTITT:
>changetiid 1 ohi1 tt_ohi
Trigger Item TINAME has been changed.
```

15.9.8 DISABLE command

This command disables the definition of and subscription to AIN trigger groups. This command works only when all trigger groups are not assigned to agents. After this command is executed, all AIN subscriptions must use trigger items.

After execution, deletions to tables TRIGGRP, TRIGDIG, TRIGESC, TRGSIESC and PODPATTR are permitted, however, additions and changes are not permitted. Deletions to trigger group datafill have no effect on the behavior of calls on the switch.

> ***Note 1:*** Tuples in TRIGINFO can be referenced by AFR route entries in the routing tables — tables OFRT, OFR2, OFR3, OFR4, IBNRTE, IBNRT2, IBNRT3, IBNRT4, HNPACONT SUB RTEREF, and FNPACONT SUB RTEREF. Modifications to tuples in TRIGINFO that are referenced by AFR route entries will affect the behavior of Automatic Flexible Routing triggers.
>
> ***Note 2:*** The DISABLE command sets office parameter AIN_TRIGGRP_DISABLED (in table OFCOPT) to ‘Y’.

When the trigger group provisioning model is disabled accidentally, it can be re-enabled by executing the ENABLE command. The ENABLE command functionality is opposite to the ‘DISABLE’ command functionality.

15.9.8.1 Sample execution of the DISABLE command

Figure 83 illustrates a sample execution of the DISABLE command.

Figure 83 Sample execution of the DISABLE command

```
AINTITT:
>disable
Subscription to AIN trigger groups is now disabled.
```

15.9.9 ENABLE command

This command re-enables the definition of and subscription to AIN trigger groups. The ENABLE command should be used when the DISABLE command is used accidentally.

> ***Note 1:*** The ENABLE command sets office parameter AIN_TRIGGRP_DISABLED (in table OFCOPT) to 'N'.
>
> ***Note 2:*** Once subscription to AIN trigger groups has been intentionally disabled, it is not recommended that subscription to AIN trigger groups be re-enabled.

15.9.10 QUIT command

The QUIT command exits the AINTITT CI increment. When the QUIT command is executed after the CREATE command, without an intervening SUBSCRIBE or CLEAR command, AIN subscription and trigger definition is re-enabled, but the trigger items created by the transition tool are not deleted. Should the AINTITT CI increment be entered again, the CREATE command must be re-executed.

15.9.11 AIN subscription blocking

This section describes AIN subscription blocking while the transition tool is running. The following tables are locked for the start of the CREATE command to the end of the SUBSCRIBE, CLEAR or QUIT commands: TRIGGRP, TRIGINFO, TRIGDIG, TRIGESC, TRGSIESC, TRIGITM, TIESCDIG, and PODPATTR.

The following tables are partially or fully locked:

- tables OFCTIID, CUSTIID, and TRKAIN are fully locked.
- tables CUSTSTN, LENFEAT, IBNFEAT, KSETFEAT and DNFEAT are partially locked (AIN related changes are blocked, but non-AIN changes are allowed)

> ***Note:*** Tuples in tables IBNFEAT, KSETFEAT and DNFEAT can be deleted using the table editor while the AINTITT conversion tool is running. This does not adversely affect the conversion of the subscription data.

15.9.12 Converting an office to trigger items

The following sections outline a scenario for converting all AIN subscriptions in an office to trigger items, for all levels of subscription — unsubscribed, individual, customer group, and office.

15.9.12.1 Stop adding or modifying AIN trigger definitions and subscriptions

All data changes described in Section 15.9.11 “AIN subscription blocking” on page 543 is blocked. All operational support systems, manual datafill changes, and other datafill processes that change AIN datafill should be halted during the execution of the transition tool. Note this includes the use of Servord and Table Editor.

15.9.12.2 Record your session in a log file

In order to capture all messages displayed by the transition tool for further analysis, it is recommended that the session be captured in a log file. Figure 84, "Example for creating a log file" on page 544 shows an example of how the session can be captured into a file on the SFDEV device.

Figure 84 Example for creating a log file

```
>record start onto sfdev
Done
>record query
FROM T026797 ONTO SFDEV STARTED BY CMAP17
```

15.9.12.3 Convert the unsubscribed trigger groups

When a standard set of trigger groups is deployed to the switch, the entire set of trigger groups must be converted to functionally equivalent trigger items, even when some trigger groups are not assigned to an agent. Use the CREATE UNSUBSCRIBED command to convert all trigger groups that are not subscribed to an agent. See Section 15.9.2, "CREATE command" on page 525 for more details. The unsubscribed trigger groups must be converted before any other trigger groups.

Use the CHANGETIID command (optional) to change any trigger item names (see Section 15.9.7, "CHANGETIID command" on page 541 for more details).

15.9.12.4 Convert the AIN subscription for the office

The following steps will convert the office-wide AIN subscription from a trigger group subscription to a trigger item subscription:

1. Use the CREATE OFFICE command to create trigger items corresponding to the AIN trigger group assigned to the office (see Section 15.9.2, "CREATE command" on page 525 for more details).
2. The CHANGETIID command can be used to change trigger item names (see Section 15.9.7, "CHANGETIID command" on page 541 for more details). This step is optional.

3. Use the SUBSCRIBE command to add the trigger items created in Step 1 to table OFCTIID (see Section 15.9.4, "SUBSCRIBE command" on page 537 for more details).
4. Use the ACTIVATE OFFICE command to switch the office-wide AIN subscription to trigger items (see Section 15.9.5, "ACTIVATE command" on page 540 for more details).

Note that all table verify procedures are executed as tuples are added to tables TRIGITM and OFCTIID, so error or warning messages can appear during the execution of the CREATE and SUBSCRIBE commands.

15.9.12.5 Convert the individual AIN subscriptions for lines, DNs, and trunk groups

The following steps will convert the individual AIN subscriptions from trigger group subscriptions to trigger item subscriptions:

1. Use the CREATE INDIVIDUAL command to create trigger items corresponding to the AIN trigger groups assigned to the lines, DNs, and trunk groups in the office (see Section 15.9.2, "CREATE command" on page 525 for more details).
2. The CHANGETIID command can be used to change trigger item names (see Section 15.9.7, "CHANGETIID command" on page 541 for more details). This step is optional.
3. The DISPLAY command can be used to show the mapping between converted trigger groups and the corresponding trigger items (see Section 15.9.3, "DISPLAY command" on page 536 for more details). This mapping can be used to update any operational support systems or databases used to administer and manage AIN services, so that the appropriate trigger item IDs can be used instead of trigger group names. This step is optional.
4. Use the SUBSCRIBE command to convert the subscriptions in tables LENFEAT, IBNFEAT, KSETFEAT, DNFEAT, and TRKAIN to trigger items (see Section 15.9.4, "SUBSCRIBE command" on page 537 for more details).

Note that all table verify procedures are executed as the transition tool adds tuples to tables TRIGITM, and as the transition tool adds or changes tuples in the AIN subscription tables. Thus, error or warning messages can appear during the execution of the CREATE and SUBSCRIBE commands.

15.9.12.6 Convert the AIN subscriptions for customer/RES groups

The following steps will convert the customer/RES group AIN subscriptions from trigger group subscriptions to trigger item subscriptions:

1. Use the CREATE CUSTGROUP command to create trigger items corresponding to the AIN trigger groups assigned to the customer/RES groups in the office (see Section 15.9.2, "CREATE command" on page 525 for more details).
2. The CHANGETIID command can be used to change trigger item names (see Section 15.9.7, "CHANGETIID command" on page 541 for more details). This step is optional.
3. The DISPLAY command can be used to show the mapping between converted trigger groups and the corresponding trigger items (see Section 15.9.3, "DISPLAY command" on page 536 for more details). This mapping can be used to update any operational support systems or databases used to administer and manage AIN services, so that the appropriate trigger item IDs can be used instead of trigger group names. This step is optional.
4. Use the SUBSCRIBE command to add trigger items to table CUSTTIID for each customer/RES group subscribed to AIN (see Section 15.9.4, "SUBSCRIBE command" on page 537 for more details). For each customer group, the SUBSCRIBE command will add trigger items assignments in table CUSTTIID that are functionally equivalent to the existing customer/RES group's AIN trigger group.
5. Use the ACTIVATE CUSTGROUP command to switch the customer/RES group AIN subscriptions to trigger items (see Section 15.9.5, "ACTIVATE command" on page 540 for more details).

Note that all table verify procedures are executed as tuples are added to tables TRIGITM and CUSTTIID, so error or warning messages can appear during the execution of the CREATE and SUBSCRIBE commands.

15.9.12.7 Optionally rename any trigger items

The CHANGETIID command can be executed at any point before, during, or after conversion. After converting all subscription levels to trigger items, the CHANGETIID command (optional) can be used to change trigger item names (see Section 15.9.7, "CHANGETIID command" on page 541 for more details).

> ***Note:*** When trigger item names are changed, enter an updated list of the renamed trigger item IDs into the operational support systems or databases used to administer and manage AIN services.

15.9.12.8 Stop recording your session in a log file

When the recording of a session in a log file is in progress, the recording can be stopped at this point. Figure 85, "Example for stopping a log file" shows an example of how a log file on the SFDEV device can be stopped.

Figure 85 Example for stopping a log file

```
>record stop onto sfdev
Done
```

15.9.12.9 Review the contents of your log file

When the session is recorded in a log file, investigate all warning and error messages to see whether any corrective action is required.

One potential source of warning and error messages is the enhancements made to validation at subscription time. In the trigger group data model, validation was not performed between the types of triggers inside a trigger group and the agent subscribing to the trigger group. In the trigger item data model, agent/trigger type validation is performed, and so incompatibilities can be detected at subscription time. The following are examples of warnings due to agent/trigger type incompatibilities:

- Consider a trigger group, containing an Off-Hook Delay trigger and a Termination Attempt trigger, that is assigned to a DN using the AINDN option. No warning message is displayed at subscription time, although only the Termination Attempt trigger is encountered at run time.

  The trigger item transition tool will create two separate trigger items from this trigger group: one Off-Hook Delay trigger item, and one Termination Attempt trigger item. However, when it attempts to assign these trigger items to the DN using the AINDN option, it will fail to add the Off-Hook Delay trigger item, since Off-Hook Delay is incompatible with the AINDN option on DNs. The transition tool will display the same error message that would be displayed by Table Editor. Note that the Termination Attempt trigger item is successfully assigned to the DN.
- Consider a line that is subscribed to a trigger group that contains both Public Feature Code and Customized Dialing Plan triggers. The transition tool will create Public Feature Code and Customized Dialing Plan trigger items corresponding to the triggers in the trigger group. However, the transition tool will fail to add the Customized Dialing Plan trigger items to the line's AIN subscription, since Customized Dialing Plan triggers are not supported for lines.

When the transition tool fails to assign a given trigger item to a given agent due to a trigger type/agent incompatibility, then the corresponding trigger in the agent's former trigger group was not being encountered at run time. Corrective action is not required.

Note: For a given AIN agent, when all of the trigger items that are functionally equivalent to the agent's AIN trigger group are incompatible with the agent, then the agent's AIN subscription is deleted.

Since the transition tool adds AIN trigger item subscriptions in the same way as Table Editor, any warning messages that would appear using Table Editor will also appear when the transition tool is run.

15.9.12.10 Disable subscriptions to trigger groups

After all AIN trigger and subscription datafill has been converted to the trigger item data model, use the DISABLE command to disable trigger group subscription (see Section 15.9.8, "DISABLE command" on page 542 for more details). At this time, all operational support systems, databases used for AIN, and telco operating procedures must be updated to use AIN trigger items, not trigger groups.

As the Update_Request message is not supported with AIN trigger item subscriptions, all SCPs that communicate with the converted switch must not send the Update_Request message to the switch. SCPs must use the Update message instead.

When the DISABLE command is used accidentally, the ENABLE command can be used to re-enable trigger group subscription (see Section 15.9.9, "ENABLE command" on page 543 for more details).

15.9.12.11 Resume adding or modifying AIN trigger definitions and subscriptions

All operational support systems, manual datafill changes, and other datafill processes that change AIN datafill can be resumed once the office has been converted to using trigger items. All trigger item data changes described in Section 15.9.11 “AIN subscription blocking” on page 543 can be resumed, however, deletions in tables TRIGGRP, TRIGDIG, TRIGESC, TRGSIESC, and POPDATTR have no effect on the behavior of calls on the switch (refer to Section 15.9.8, "DISABLE command" on page 542).

15.10 Deletion of a tuple from table TRIGITM

The deletion of a tuple from table TRIGITM is blocked when the trigger item to be deleted is subscribed in any subscription table. See Figure 86 for the resulting error message.

Figure 86 Error message in table TRIGITM

```
PROCESSING ERROR
TUPLE REFERRED TO BY ANOTHER TABLE - USE TABREF OR
FINDREF TO GET THE LIST OF POTENTIAL REFERENCES
```

In table TRIGITM, the deleted tuples are no longer visible, but are stored until two table audits are completed following the deletion of the trigger item tuple. Table audits are scheduled daily at 3:11 a.m.

16 SERVORD guidelines

An agent can subscribe to AIN through SERVORD or table control, using either the trigger group or trigger item provisioning interface.

In subscribing to AIN, two options are available: AIN and AINDN.

Option AIN is used for all originating triggers, in all possible subscription tables including: LENFEAT, IBNFEAT, KSETFEAT, TRKAIN, CUSTSTN, and DNFEAT (for DISA).

Option AINDN is used for all terminating triggers. Option AINDN is only datafilled in table DNFEAT.

16.1 SERVORD support for trigger group provisioning interface

This section describes how to add, change, and delete the AIN option on lines with the trigger group provisioning interface. Section 16.2 “SERVORD support for trigger item provisioning interface” on page 562 has appropriate information on using SERVORD with the Trigger Item provisioning interface.

16.1.1 AIN option

The following section describes how to add the AIN option to a plain ordinary telephone service (POTS) line, a Meridian Digital Centrex (MDC) line, a Residential Enhanced Service (RES) line or a Direct Inward System Access (DISA) DN.

16.1.1.1 Adding the AIN option to POTS, MDC, and RES lines, or DISA DNs

- To assign AIN to POTS lines, MDC lines, RES lines, or DISA DNs using command ADO, first specify the line using its corresponding DN or LEN. The DN or LEN must be previously defined in the office.
- The next prompt requests an option. In response, enter AIN.

- In response to the AINGRP prompt, enter the AINGRP name from table TRIGGRP that defines the group a triggers that this agent subscribes. The AINGRP must have been previously defined in table TRIGGRP.
- When no more options are to be assigned to the line, enter “$”. Only one AINGRP can be assigned to a line at a time.

The ADO command can also be used to add options to a Virtual DN (VDN). Section 16.3 “Virtual DN provisioning” on page 566 has appropriate information on creating and deleting a VDN.

Figure 87 shows an example of how to assign a group of AIN triggers defined by AINGRP1 in table TRIGGRP to a POTS line, a MDC line, a RES line, or a DISA DN specified by DN 6136210000.

Figure 87 Assigning AIN triggers to a POTS line with SERVORD

```
>SERVORD
SO:
>ADO
SONUMBER: NOW 91 10 24 PM
>
DN_OR_LEN:
>6136210000
OPTION:
>AIN
AINGRP:
>LNTRIGGRP2_auto
OPTION:
>$
```

16.1.1.2 Assigning the AIN option to EBS, BRI, and MFT terminals

- To add the AIN option to an electronic business set (EBS), basic rate interface (BRI), or meridian feature transparency (MFT) terminal, enter command ADO.
- Press the carriage return, that brings up the prompt for DN or LEN. In response to this prompt, enter the DN, LTID, or LEN that corresponds to the line that AIN is being added to. The DN, LTID, or LEN must have been previously defined in the office.
- In response to OPTKEY prompt, enter the number 1 (this specifies key 1 as the Primary DN key).
- In response to the OPTION prompt, enter AIN.
- In response to the AINGRP prompt, enter the AINGRP name from table TRIGGRP that defines the group of triggers that are assigned to this line. The AINGRP must have been previously defined in TRIGGRP.

- In response to the KEYLIST prompts that follow, enter the number of the DN key that the AIN option is assigned. Even though key 1 has been specified as the Primary DN key, you must still enter the number 1 to assign the AIN option to it. When you wish to assign the AIN option to all the keys, enter $. Once you have completed key specification, enter $.
- In response to the OPTKEY prompt, enter $ when no more options are being assigned to the line. Only one AINGRP can be assigned to the set at one time.

Figure 88 illustrates the required method to assign a group of AIN triggers defined by AINGRP1 in TRIGGRP to an EBS specified by DN 7224011. AIN is assigned to DN key 1 and DN key 5 on the set.

Figure 88 Assigning AIN triggers to an EBS with SERVORD

```
>SERVORD
SO:
>ADO
SONUMBER: NOW 91 10 24 PM
>
DN_OR_LEN:
>7224011
OPTKEY:
>1
OPTION:
>AIN
AINGRP:
>AINGRP1
KEYLIST:
>1
KEYLIST:
>5
KEYLIST:
>$
OPTKEY:
>$
```

16.1.1.3 Changing the AIN option on POTS, MDC, and RES lines, and DISA DNs

- To change the AIN option on a POTS, MDC, RES line, or DISA DN, use command CHF.
- Enter the DN or LEN that corresponds to the line requiring a change. The DN or LEN must be previously defined in the office.
- In response to the OPTION prompt, enter AIN.

- In response to the AINGRP prompt, enter the AINGRP name from table TRIGGRP that defines the group of triggers that the line now subscribes.
- When no more options are to be changed, enter $.

Command CHF can change options on a VDN. Section 16.3 “Virtual DN provisioning” on page 566 has more detailed information on creating and deleting a VDN.

Figure 89 illustrates the method for changing the AIN option to AINGRP2 for a POTS, MDC, and RES line, or DISA DN with LEN HOST 00 0 07 04.

Figure 89 Changing the AIN option for a POTS, MDC, and RES line, or DISA DN using SERVORD

```
>SERVORD
SO:
>CHF
SONUMBER: NOW 91 10 24 PM
>
DN_OR_LEN:
>HOST 00 0 07 04
OPTION:
>AIN
AINGRP:
>AINGRP2
OPTION:
>$
```

16.1.1.4 Changing the AIN option on EBS, BRI, and MFT terminals

- To change the AIN option on an EBS, BRI, or MFT terminal, use command CHF.
- Enter the DN, LTID, or LEN that corresponds to the line that requires changing. The DN, LTID, or LEN must be previously defined in the office.
- In response to the OPTKEY prompt, enter the Primary DN key.
- In response to the OPTION prompt, enter AIN.
- In response to the AINGRP prompt, enter the AINGRP name that now is assigned to the line.
- The subsequent prompts request the DN keys for the AIN option that is to be assigned. When AIN is assigned to all DN keys on the set, enter $. Otherwise, specify each key that is assigned. After all the DN keys have been specified, enter $.
- In response to the OPTKEY prompt, enter $ when no more options are to be changed.

Figure 90 illustrates the method required to change the AIN option for an EBS as specified by HOST 00 0 05 08. The AINGRP is changed to AINGRP1, and the key that the AIN option applies to is DN key 1.

Figure 90 Changing the AIN option for an EBS using SERVORD

```
>SERVORD
SO:
>CHF
SONUMBER: NOW 91 10 24 PM
>
DN_OR_LEN:
>HOST 00 0 05 08
OPTKEY:
>1
OPTION:
>AIN
AINGRP:
>AINGRP1
KEYLIST:
>1
KEYLIST:
>$
OPTKEY:
>$
```

16.1.1.5 Deleting the AIN option from POTS, MDC, and RES lines, and DISA DNs

- To delete the AIN option on a POTS line, an MDC line, a RES line, or a DISA DN, use command DEO.
- Enter the DN or LEN that corresponds to the line that is to have the AIN option removed. The DN or LEN must be previously defined in the office.
- In response to the option prompt, enter AIN.
- When no more options are to be deleted from the line, enter $.

Command DEO is used to delete options from a VDN. Section 16.3 "Virtual DN provisioning" on page 566 has more detailed information on creating and deleting a VDN.

Figure 91 illustrates the required method to delete the AIN option from a POTS, MDC, and RES line, or a DISA DN with LEN HOST 00 0 07 04.

Figure 91 Deleting the AIN option from a POTS, MDC, and RES line, or DISA DN using SERVORD

```
>SERVORD
SO:
>DEO
SONUMBER: NOW 91 10 24 PM
>
DN_OR_LEN:
>HOST 00 0 07 04
OPTION:
>AIN
OPTION:
>$
```

16.1.1.6 Deleting the AIN option from EBS, BRI, and MFT terminals

- To delete the AIN option from an EBS, BRI, or MFT terminal, use command DEO.
- Enter the DN, LTID, or LEN that corresponds to the line that requires the AIN option deleted. The DN, LTID, or LEN must have been previously defined in the office.
- In response to the OPTKEY prompt, enter the Primary DN key.
- In response to the OPTION prompt, enter AIN.
- In response to the OPTKEY prompt, enter $ when no more options are to be deleted from the line.

Figure 92 on page 556 illustrates the required method to delete the AIN option from an EBS specified by LEN HOST 00 0 05 08.

Figure 92 Deleting the AIN option from an EBS using SERVORD

```
>SERVORD
SO:
>DEO
SONUMBER: NOW 91 10 24 PM
>
DN_OR_LEN:
>HOST 00 0 05 08
OPTKEY:
>1
OPTION:
>AIN
OPTKEY:
>$
```

16.1.2 AINDN option

A directory number (DN) that is valid in the office can subscribe to option AINDN with SERVORD, using either the trigger group, or trigger item provisioning interface. The following sections describe how to add, change, and delete the AINDN options for various line types with SERVORD using the trigger group provisioning interface. See Section 16.2 “SERVORD support for trigger item provisioning interface” on page 562 for more information on using SERVORD with the trigger item provisioning interface.

16.1.2.1 Assigning option AINDN to POTS, MDC, RES, or E type SDN DNs

- To assign option AINDN to a DN that corresponds to a POTS, MDC, RES, or an E-Type SDN line, use command ADO.
- Enter the DN (mandatory for E-Type SDNs) or its corresponding LEN to the AINDN option that will be assigned. The DN or LEN must have been previously defined in the office.
- In response to the OPTION prompt, enter AINDN.
- In response to the AINGRP prompt, enter the AINGRP name from table TRIGGRP that defines the group of triggers the DN subscribes to.
- When no more options are assigned to the DN, enter $. Only one AINGRP can be assigned to the line.

Figure 93 on page 557 illustrates the required method to assign a group of AIN triggers defined by DNTRIG in table TRIGGRP to DN 6210000 that corresponds to a POTS, MDC, RES, or an SDN line.

Figure 93 Assigning a group of AIN triggers with SERVORD

```
>SERVORD
SO:
>ADO
SONUMBER: NOW 91 10 24 PM
>
DN_OR_LEN:
>6210000
OPTION:
>AINDN
AINGRP:
>DNTRIG
OPTION:
>$
```

16.1.2.2 Assigning AINDN to EBS, BRI, and MFT DNs

- To assign the AINDN option to a DN on an EBS, BRI, or MFT terminal, use the ADO command.
- Enter the DN or its corresponding LEN that the AINDN option will be assigned. For BRI, enter the DN. The DN or LEN must have been previously defined in the office.
- In response to the OPTKEY prompt, enter the DN key that will be assigned the AINDN option.
- In response to the OPTION prompt, enter “AINDN”.
- In response to the AINGRP prompt, enter the AINGRP name from TRIGGRP that specifies the group of triggers to be assigned to the DN.
- In response to the OPTKEY prompt, enter $ when no more options are to be applied to the set. It is possible to assign different AINGRPs to different DN keys on the set. Only one AINGRP can be specified per DN key.

Figure 94 on page 558 shows an example of how to assign the AINDN option to DN 7227020 that corresponds to an EBS. A group of AIN triggers defined by AINGRP1 in table TRIGGRP is assigned to DN key 2 on the set, and another group of triggers defined by AINGR7 is assigned to DN key 4 on the set.

Figure 94 Assigning the AINDN option to a DN corresponding to an EBS with SERVORD

```
>SERVORD
SO:
>ADO
SONUMBER: NOW 91 10 24 PM
>
DN_OR_LEN:
>7227020
OPTKEY:
>2
OPTION:
AINDN
AINGRP:
>AINGRP1
OPTKEY:
>4
OPTION:
>AINDN
AINGRP:
>AINGRP7
OPTKEY:
>$
```

16.1.2.3 Changing the AINDN option for a POTS, MDC, RES, or E type SDN DNs

- To change the AINDN option for a DN that corresponds to a POTS, MDC, RES, or an E-Type SDN line, use command CHF.
- Enter the DN (mandatory for E-Type SDNs) or its corresponding LEN that requires the change. The DN or LEN must have been previously defined in the office.
- In response to the OPTION prompt, enter AINDN.
- In response to the AINGRP prompt, enter the AINGRP name from table TRIGGRP that defines the group of triggers that the DN will now subscribe.
- When no more options requiring a change, enter $.

Figure 95 on page 559 illustrates the required method to change the AINDN option to AINGRP2 for LEN HOST 00 0 07 04, that corresponds to a POTS, MDC or RES line.

Figure 95 Changing the AINDN option to AINGRP2 with SERVORD

```
>SERVORD
SO:
>CHF
SONUMBER: NOW 91 10 24 PM
>
DN_OR_LEN:
>HOST 00 0 07 04
OPTION:
>AINDN
AINGRP:
>AINGRP2
OPTION:
>$
```

16.1.2.4 Changing the AINDN option for an EBS, BRI, or MFT terminal

- To change the AINDN option for a DN that corresponds to an EBS, BRI, or MFT terminal, use command CHF.
- Enter the DN or its corresponding LEN that is to be changed. For BRI, enter the DN. The DN or LEN must have been previously defined in the office.
- In response to the OPTKEY prompt, enter the DN key that will have its AINDN option changed.
- In response to the OPTION prompt, enter AINDN.

- In response to the AINGRP prompt, enter the AINGRP name for assignment to the line.
- In response to the OPTKEY prompt, enter $ when no more options in the set require a change.

Figure 96 on page 560 illustrates the required method to change the AINDN option that has been assigned to DN key 2 on an EBS specified by HOST 00 0 05 08. AINGRP1 is now assigned to DN key 2 on the set.

Figure 96 Changing the AINGRP1 to DN key 2 on an EBS with SERVORD

```
>SERVORD
SO:
>CHF
SONUMBER: NOW 91 10 24 PM
>
DN_OR_LEN:
>HOST 00 0 05 08
OPTKEY:
>2
OPTION:
>AINDN
AINGRP:
>AINGRP1
OPTKEY:
>$
```

16.1.2.5 Deleting the AINDN option for a POTS, MDC, RES, or an E-type SDN DN

- To delete the AINDN option from a DN corresponding to a POTS line, an MDC line, a RES line, or an E-Type SDN, use command DEO.
- Enter the DN (mandatory for E-Type SDNs) or its corresponding LEN indicating the AINDN option that will be removed. The DN or LEN must have been previously defined in the office.
- In response to the OPTION prompt, enter AINDN.
- When no more options are to be deleted from the line, enter $.

Figure 97 illustrates the required method to delete the AINDN option from DN 6210504 that corresponds to a POTS, MDC, RES, or an SDN line.

Figure 97 Deleting the AINDN option from a DN with SERVORD

```
>SERVORD
SO:
>DEO
SONUMBER: NOW 91 10 24 PM
>
DN_OR_LEN:
>6210504
OPTION:
>AIN
OPTION:
>$
```

16.1.2.6 Deleting the AINDN option for an EBS, BRI, or MFT terminal

- To delete the AINDN option from a DN that corresponds to an EBS, BRI, or MFT terminal, use command DEO.
- Enter the DN that deletes the AINDN option. The DN must have been previously defined in the office.
- In response to the OPTKEY prompt, enter the DN key that deletes the AINDN option.
- In response to the OPTION prompt, enter AINDN.
- In response to the OPTKEY prompt, enter $ when no more options are to be deleted from the set.

Figure 98 shows an example of how to delete the AINDN option from DN key 5 on an EBS that has a DN that corresponds to LEN HOST 00 0 05 08.

Figure 98 Deleting the AINDN option from a DN key 5 on an EBS with SERVORD

```
>SERVORD
SO:
>DEO
SONUMBER: NOW 91 10 24 PM
>
DN_OR_LEN:
>HOST 00 0 05 08
OPTKEY:
>5
OPTION:
>AINDN
OPTKEY:
>$
```

16.2 SERVORD support for trigger item provisioning interface

SERVORD can be used to subscribe agents to the AIN or AINDN option using the trigger item provisioning interface.

To maintain backwards compatibility with the DMS trigger group interface, the trigger group value controls whether triggers are checked using the trigger item provisioning interface or the trigger group provisioning interface. When the trigger group name (AINGRP) is set to TIID, the DMS trigger item interface applies. Values other than TIID implies that the DMS trigger group interface is in effect.

Only one trigger item assignment can be added at one time. To subscribe to multiple trigger items, multiple SERVORD commands are required. It is not possible to add more than one of the same option (AIN or AINDN) within the same command.

16.2.1 Adding the AIN or AINDN option (ADO)

Adding the AIN or AINDN option is accomplished using command ADO.

In response to the AINGRP prompt, the keyword TIID should be entered. A trigger item assignment is prompted for, consisting of a TDP (or TIASGN), TINAME, and assignment state. The assigned trigger item must exist in table TRIGITM.

Figure 99 on page 563 illustrates how to assign a trigger item to DN 6136213911. In this example, the assigned trigger item is trigger Off-Hook_Immediate at the origination attempt TDP. The assignment state is set to ON.

When the user wishes to add more trigger items assignments to the AIN subscription, a separate ADO command is required. This is illustrated in Figure 100 on page 564. When AIN is already present on the line, a message is displayed stating that AIN already exists, but the command is accepted.

Only one option of the same type can be entered within the same command, but multiple distinct options can be added at the same time, provided they are compatible. For example it is not possible to add two instances of AIN, however, it is possible to subscribe to both AIN and AINDN within the same command

Figure 99 on page 563 illustrates the method required to add the AIN option using trigger items.

Figure 99 Adding the AIN option using trigger items

```
SO:
>ado
SONUMBER:     NOW  98  2 11 PM
>
DN_OR_LEN:
>6136213911
OPTION:
>ain
AINGRP:
>tiid
TIASGN:
>1
TINAME:
>ohi1
TRIGACT:
>on
OPTION:
>$
COMMAND AS ENTERED:
ADO NOW 98 2 11 PM 6136213911 ( AIN TIID 1 OHI1 ON ) $
ENTER Y TO CONFIRM,N TO REJECT OR E TO EDIT
>
```

Figure 100 on page 564 illustrates the required method to add more trigger item assignments to the AIN subscription using command ADO.

Figure 100 ADO command with previously assigned trigger items

```
SO:
>ado
SONUMBER:     NOW  98  2 11 PM
>
DN_OR_LEN:
>6136213911
OPTION:
>ain
AINGRP:
>tiid
TIASGN:
>3
TINAME:
>ohd1
TRIGACT:
>on
OPTION:
>$
COMMAND AS ENTERED:
ADO NOW 98 2 11 PM 6136213911 ( AIN TIID 3 OHD1 ON ) $
ENTER Y TO CONFIRM,N TO REJECT OR E TO EDIT
>Y
 AIN : ALREADY EXISTS, COMMAND AND/OR ORDER ACCEPTED
```

16.2.2 Changing the AIN or AINDN option for an agent

Changing the AIN or AINDN option is accomplished using command CHF, as in the trigger group provisioning interface.

The CHF command operates in two separate ways. For the trigger group provisioning interface, command CHF replaces the current subscription information with the datafill specified in the command. When an agent is subscribed to the trigger item provisioning interface, and trigger item information is specified within the command, CHF modifies the assignment state. In this case, the trigger item specified must already be assigned.

Command CHF cannot be used to change between one provisioning interface and the other. Use command DEO to delete the current subscription information, then use command ADO to add the new subscription information for the new provisioning interface.

Figure 101 on page 565 illustrates the required method to change the assignment state of the assigned trigger 20 tat1 for DN 6136213911.

Figure 101 Changing the AINDN option information (trigger items)

```
SO:
>chf
SONUMBER:     NOW  98  2 11 PM
>
DN_OR_LEN:
>6136213911
OPTION:
>aindn
AINGRP:
>tiid
TIASGN:
>20
TINAME:
>tat1
TRIGACT:
>off
OPTION:
>$
COMMAND AS ENTERED:
CHF NOW 98 2 11 PM 6136213911 ( AINDN TIID 20 TAT1 OFF) $
ENTER Y TO CONFIRM,N TO REJECT OR E TO EDIT
>
```

16.2.3 Deleting the trigger item assignment

When an agent is subscribed to AIN using the trigger item provisioning interface, the DEO command can be used to delete individual trigger item assignments. Unlike the trigger group provisioning interface, it is not possible to delete the entire AIN subscription information.

After the AIN or AINDN option is input at the OPTION prompt, a trigger item key of the assignment to be deleted will be prompted for. Figure 102 on page 566 illustrates using DEO to delete a trigger item assignment.

Figure 102 Deleting a trigger item assignment

```
SO:
>deo
SONUMBER:     NOW  98  2 11 PM
>
DN_OR_LEN:
>6136213911
OPTION:
>ain
TDP:
>1
TINAME:
>ohi1
OPTION:
>$
COMMAND AS ENTERED:
DEO NOW 98 2 11 PM 6136213911 ( AIN 1 OHI1 )  $
ENTER Y TO CONFIRM,N TO REJECT OR E TO EDIT
>
```

16.3 Virtual DN provisioning

Virtual DN provisioning applies to both the trigger group provisioning interface and the trigger item provisioning interface.

Operating companies can define and subscribe virtual DNs (VDN) using SERVORD commands. They can use flow-through provisioning to assign a VDN with a Termination_Attempt (TAT) trigger.

This functionality provides a streamlined common operation to operating companies to reduce the need to manually co-ordinate the provisioning of TAT triggers that are assigned to a VDN. This functionality uses the SERVORD NEWDN and OUTDN commands. The SERVORD ADO, DEO, and CHF features support modification of options on virtual DNs.

16.3.1 NEWDN command

The NEWDN command allows provisioning of virtual DNs (DNs that are not associated with physical line equipment). For an AIN VDN, command NEWDN provisions the VDN and can subscribe it to AIN.

The prompt VDNTYPE of AIN specifies an AIN VDN. At the NEWDN VNDTYPE prompt, when you have entered YES at the BLOCK_OF_DNS prompt, only the VDN types that can be datafilled in blocks are available in the list of possible VDN types. For example, VDNTYPE RTE, RCF and RCFEA are available at the VDNTYPE prompt when BLOCK_OF_DNS is set to NO, whereas only the existing VDN type RTE is available at the VDNTYPE prompt when BLOCK_OF_DNS is set to YES (RCF and RCFEA do not support block of VDNs datafill).

When you enter a NONIBN VDN, there is a prompt for the AIN_VDN_OPTION vector. However, no options are valid at this prompt.

Table 295 contains the parameter definitions for the NEWDN command for an AIN VDN.

Table 295 Parameter options

Parameter	Value	Definition
VDNTYPE (when BLOCK_OF_DNS is set to YES)	{RTE}	Selects the type of VDN to be provisioned.
VDNTYPE (when BLOCK_OF_DNS is set to NO)	{RTE,RCF,RCFEA,AIN}	Selects the type of VDN to be provisioned. Select AIN for an AIN VDN.
DNTYPE	{IBN,NONIBN}	Directory Number Type: IBN datafills a DN for a private IBN environment. Subgroups are CUSTGRP and SUBGRP. NONIBN datafills a DN for a public environment. Subgroup of LINEATTR.
CUSTGRP	alphanumeric (1 to 16 characters)	Enter the name assigned to the customer group that the AIN DN belongs.
SUBGRP	0 to 7	The subgroup number within the customer group to that the AIN DN belongs.
LINEATTR	0 to 1023	The line attribute index into table LINEATTR for this virtual DN.
AIN_VDN_OPTION	NCOS or SMDR	Enter the option required. The prompt label is changed.
NCOS	0 to 255	The NCOS to be applied to the call. The value must be datafilled in table NCOS.
OPTION	Line option	Any line option can be entered, only AINDN will be valid for this VDN.

When creating an AIN virtual DN through the SERVORD NEWDN command, the user is not required to specify the AINDN option. However, when a valid termination attempt trigger is not assigned to the VDN through the AINDN option, then any call routed to the VDN is routed to treatment. The AINDN option can be assigned later with the ADO command.

Figure 103 and Figure 105 on page 570 illustrate the NEWDN command session for the trigger group provisioning interface and the trigger item provisioning interface.

Figure 103 Sample NEWDN command session for trigger group provisioning

```
>servord
SO:
>newdn
SONUMBER:     NOW  97  5  7 PM
>
SNPA:
>613
BLOCK_OF_DNS:             - allows provisioning of more than one dn
>NO
DN:
>7225399
VDNTYPE:
>ain                       - indicates that new line will be an ain vdn
DNTYPE:
>ibn                       - can be IBN or NONIBN
CUSTGRP:                     - applicable to IBN only (for non IBN lines
>comkodak                    it will ask for the line attribute index.)
SUBGRP:
>0
AIN_VDN_OPTION:            - Options: NCOS and SMDR (valid only for IBN)
>$
OPTION:
>aindn
AINGRP:
>termatt
OPTION:
>$
COMMAND AS ENTERED:
NEWDN NOW 97 5 7 PM 613 NO 7225399 AIN IBN COMKODAK 0 $ AINDN TERMATT $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>y
```

Figure 104 Sample NEWDN command session for trigger item provisioning

```
>servord
SO:
>newdn
SONUMBER:     NOW  97  5  7 PM
>
SNPA:
>613
BLOCK_OF_DNS:             - allows provisioning of more than one dn
>NO
DN:
>7225399
VDNTYPE:
>ain                       - indicates that new line will be an ain vdn
DNTYPE:
>ibn                       - can be IBN or NONIBN
CUSTGRP:                     - applicable to IBN only (for non IBN lines
>comkodak                    it will ask for the line attribute index.)
SUBGRP:
>0
AIN_VDN_OPTION:           - Options: NCOS and SMDR (valid only for IBN)
>$
OPTION:
>aindn
AINGRP:
>tiid
TIASGN:
>20
TINAME:
>TAT_SIM
TRIGACT:
>ON
OPTION:
>$
COMMAND AS ENTERED:
NEWDN NOW 97 5 7 PM 613 NO 7225399 AIN IBN COMKODAK 0 $ AINDN TERMATT $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>y
```

16.3.2 OUTDN command

The OUTDN command deletes the data for a VDN but does not prompt for all fields available in the NEWDN command. The OUTDN command prompts only for the VDN (or VDNs) to be deleted.

An OUTDN request is rejected when one of the following occurs:

- the VDN type that corresponds to the VDNs to be deleted is not a VDN type supported for the block of VDN creation by the NEWDN command
- all VDNs in the specified block of VDNs do not have the same VDN type

When you delete a VDN, any options assigned to the VDN are also deleted.

Figure 105 illustrates a sample OUTDN command session.

Figure 105 Sample OUTDN command session

```
>servord
SO:
>outdn
SONUMBER:     NOW  97  5  7 PM
>
SNPA:
>613
BLOCK_OF_DNS:
>NO
DN:
>7225399
COMMAND AS ENTERED:
OUTDN NOW 97 5 7 PM 613 NO 7225399
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT.
>y
```

16.4 SERVORD support for the message waiting indicator

Support for parameter message waiting indicator in the Update message requires the AINMWT option for SERVORD. SERVORD commands that apply to option AINMWT are as follows:

- ADO
- CHF
- DEO
- NEW

The user can add the AINMWT option to agents: KSET lines and ISDN lines.

The MWT and EMW options cannot be assigned in conjunction with the AINMWT option.

Figure 106 on page 571 illustrates the steps required to assign the AINMWT option to a DN through SERVORD.

Figure 106 Example of SERVORD AINMWT option

```
>servord
SO:
>ado
SONUMBER:     NOW  97  2 27 AM
>6137215060
Key:
>5
OPTION:
>AINMWT
OPTION:
>$
COMMAND AS ENTERED:
ADO NOW 97 2 22 AM 7215060 (AINMWT) $
ENTER Y TO CONFIRM, N TO REJECT OR E TO EDIT
>y
```

16.5 SERVORD support for option AINDENY

Option AINDENY prompts for a vector of DENY requests. This option is applicable for RES and ISDN BRI lines. Each DENY request contains the following subfields:

- ACTION - valid values: DENY, RESTORE
- SCOPE - valid values: TIID, ALL
- ELEMENT - valid values depend on the specified value of subfield SCOPE.
  - For the case where the subfield SCOPE=TIID, ELEMENT must be a valid trigger item ID from table TRIGITM.
  - For the case where sub-field SCOPE=ALL, ELEMENT must be a valid trigger type (SFC/PFC).

16.5.1 Adding option AINDENY to a DN

Telco personnel can subscribe RES and ISDN BRI agents to option AINDENY using the SERVORD command ADO.

16.5.2 Adding DENY requests to the existing option AINDENY

When option AINDENY already exists, option AINDENY assignment will be modified to have the trigger item ID(s) or trigger types added to the existing DENY request vector. Either a SERVORD ADO command or CHF command will be issued. Other entries in the existing tuple that are not specified will remain in the tuple, unmodified.

Telco personnel can subscribe an agent to option AINDENY through SERVORD using the ADO command. Please refer to Figure 107 for an example.

Figure 107 Example of addition of option AINDENY using SERVORD ADO

```
SO:
>ado
SONUMBER:    NOW  98  2 11 PM
>
DN_OR_LEN:
>6136213911
OPTION:
>aindeny
ACTION:
>deny
SCOPE:
>tiid
ELEMENT:
>4 sfc123
ACTION:
>$
OPTION:
>$
COMMAND AS ENTERED:
ADO NOW 99 7 8 AM 6136213911 ( AINDENY (DENY TIID 4 SFC123 ) $) $
ENTER Y TO CONFIRM,N TO REJECT OR E TO EDIT
>Y
```

Up to four deny requests are allowed to be present on a line. When an ADO/CHF operation results in more than four entries being present in the list of denied requests, an error message is given and the entire operation will be blocked.

16.5.3 Removal of DENY requests from an option AINDENY

One or more DENY requests can be removed from the vector of DENY requests by giving the field ACTION the value RESTORE during an ADO or a CHF operation.

16.5.4 Deletion of option AINDENY from a DN

Option AINDENY can be removed from RES and ISDN BRI lines using the SERVORD command DEO. The removal of option AINDENY restores all the DENY requests.

> ***Note:*** Option AINDENY gets deleted when all the DENY requests in the vector are being restored by either an ADO or a CHF command.

16.5.5 SERVORD redundant feature activity

ADO redundancy for option AINDENY will be supported regardless of the state of the SO_ALLOW_REDUNDANT_FEATURE office parameter. With ADO redundancy, the operating company can use the ADO command to deny or restore AIN services for a given line, whether or not the line already has option AINDENY. In essence, the ADO command acts like a CHF command with ADO redundancy.

17 Provisioning assumptions

The following assumptions are made for the examples given in Chapter 18 through Chapter 37:

- All examples deal with one-trigger call scenarios. The trigger is the first that a call encounters. Consequently, the AIN trigger groups are defined to contain only one trigger to be encountered by a call. Multi-trigger group definitions are possible. See Section 14.3 “Multiple trigger group definition” on page 498.
- All examples do not have the call type criterion specified. The call type criterion is optional for all noted trigger types. When it is not specified, both voice and data calls trigger.
- The action information for all examples is the same, that is, action (EVENT), protocol (TCAP), message set (R02), and transport (SS7), GTT(AINJAZZ), and GTSOURCE(DFLT).

  Note 1: AINJAZZ is an illustration only. The field should represent the corresponding tuple in table C7GTTYPE. All the other values shown are constants.

  Note 2: SS7 is the SSP interface to the off-board processor. You are expected to have completed the SS7 message datafilling described in Chapter 13: “SS7 datafill” on page 487. Datafilling the ACTION field in table TRIGDIG, table TRIGITM, or table TRIGINFO is not repeated in the triggering chapters.

- The triggering messages sent to the off-board processor are correct.

Once the datafilling requirements for a call to encounter a trigger and query the database are complete, proceed to the response chapters.

SERVORD guidelines for assigning AIN or AINDN options to a line are included in Chapter 16: “SERVORD guidelines” on page 551.

18 Off-Hook_Immediate trigger

18.1 General

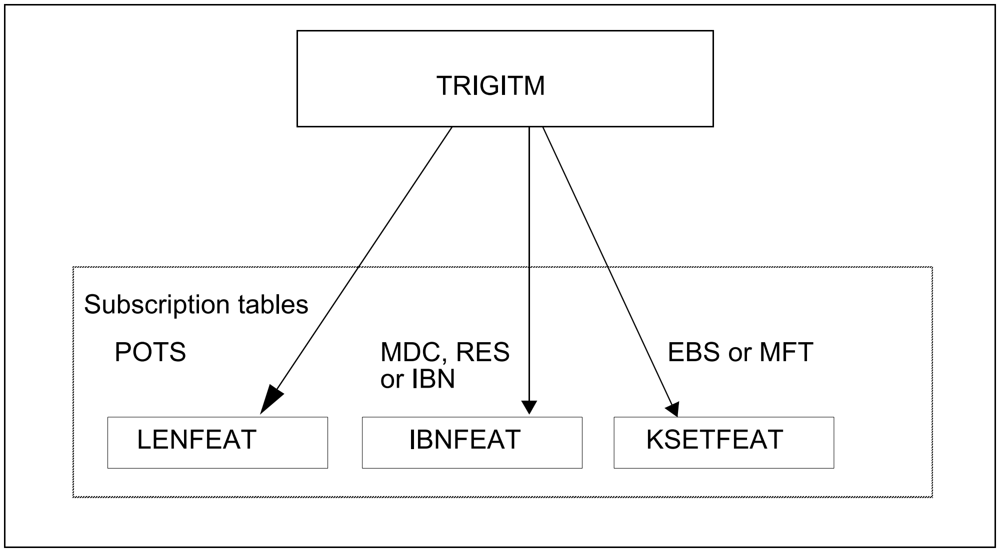
> **ATTENTION**
> Trigger OFFHKIMM can be provisioned in two ways: either by using the trigger item or by using the trigger group provisioning interface. A subscriber (office, customer group, or individual agent) can only subscribe to triggers defined by one provisioning interface, however, a call can encounter triggers provisioned in different provisioning interfaces at different subscription levels.

Trigger Off-Hook_Immediate (OFFHKIMM) occurs at the Origination_Attempt TDP, in the originating basic call model (BCM). This trigger formulates and sends a query to the off-board processor as soon as the associated line goes off-hook.

18.2 Trigger item provisioning interface

Figure 108 “Datafilling hierarchy for the OFFHKIMM trigger” on page 578 provides the datafilling steps required by trigger OFFHKIMM. Figure 108 assumes that the trigger item provisioning interface has been selected for trigger OFFHKIMM.

Figure 108 Datafilling hierarchy for the OFFHKIMM trigger



18.2.1 Step 1: Datafilling table TRIGITM

The OHITRIG1 trigger type is non-digit based. To specify an OHITRIG1 trigger, trigger item criteria must be datafilled in table TRIGITM. This information indicates the action to be performed by the SSP when the criterion is met.

1. In response to the TDP prompt, enter 1. This is the numeric code for the Origination_Attempt TDP.
2. In response to the TINAME prompt, enter the trigger item identifier you wish to use. For example, enter OFFIMM.
3. In response to the TRIGGER prompt, enter OFFHKIMM.
4. For the CRITERIA subfield prompts, only one criteria (calltype) is valid for the OFFHKIMM trigger. When the desired criteria has been entered, type $ at the CRITERIA prompt.

   Call type (CT) criterion: This criterion is optional. If the CT criterion is not specified, then both voice and data calls trigger if all other criteria are satisfied. At the CT prompt, type VBINFO for voice or CMDATA for data.
5. In response to the STATE field, enter LK or ULK. LK deactivates a trigger item; ULK activates a trigger item.
6. In response to the ACTION prompt, type EVENT. EVENT instructs the SSP to launch a query when the trigger criterion has been satisfied.

7. In response to the Service Logic Host Route (SLHR) subfield prompts, enter the following:
   - In response to the MSGSET prompt, enter R02.
   - In response to the TRANSPORT prompt, enter SS7.
   - In response to the GTT prompt, enter a Global Title Translation variable. For example, AINJAZZ.
8. In response to the OPTION prompt, type $.

18.2.2 Step 2: Subscribing an agent to trigger OFFHKIMM

Use SERVORD to subscribe to an agent. The AINGRP field (trigger group name) determines the provisioning interface selection. When a trigger group name is datafilled, the trigger group provisioning interface is used. When the keyword, TIID is datafilled, the trigger item provisioning interface is used.

From SERVORD invoke command ADO to subscribe to an existing agent. The following steps describe the procedure:

1. In response to the SONUMBER prompt, enter $.
2. In response to the DN_OR_LEN prompt, enter an existing DN or LEN.
3. In response to the OPTION prompt, enter AIN.
4. In response to the AINGRP prompt, enter TIID.
5. In response to the TIASGN prompt, enter 1 to specify the Origination_Attempt TDP.
6. In response to the TINAME prompt, enter the 8 character alphanumeric string of a valid trigger item in table TRIGITM.
7. In response to the TRIGACT prompt, enter ON or OFF for the trigger activation state.
8. In response to the OPTION prompt, enter $ to indicating trigger item assignments are complete.

Table LENFEAT stores subscriptions to AIN for POTS lines. Table IBNFEAT stores subscriptions to AIN for RES, IBN, and MDC lines. Table KSETFEAT stores subscriptions to AIN for EBS lines and MFT terminals.

Table 296 summarizes datafill requirements for the OFFHKIMM trigger type.

Table 296 Trigger definition and subscription tables for the OFFHKIMM trigger type

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Sub-scription tables	Option	SERVORD
ORIGATT	OFFHKIMM	CT	TRIGITM	Line(POTS)	LENFEAT	AIN	YES
				Line (MDC, RES. or IBN)	IBNFEAT		
				Line (EBS, MFT,BRI)	KSETFEAT		

18.2.3 Sample OFFHKIMM datafill

Table 297 illustrates sample datafill for trigger OFFHKIMM.

Table 297 Table IBNFEAT

LEN	DNNO	DF	FEATURE	DATA
				AINGRP
HOST 02 0 00 01	0	AIN	AIN	TIID (1 OHITRIG1 ON) $

Table 298 illustrates sample datafill for subscribing trigger OFFHKIMM to an agent.

Table 298 Table TRIGITM

TIID		Trigger	Criteria	State	Action	MsgSet	Transport	GTT	Option
TDP	NAME								
1	OHIT RIG1	OFFH KIMM	$	ULK	EVE NT	R02	SS7	AIN JAZZ	$

18.2.4 Step 3: verifying with TRAVER

After the datafill is set up for trigger OFFHKIMM, TRAVER can verify the AIN Service Enablers triggering.

This section describes the sample calls that trigger at OFFHKIMM. Figure 109 “Sample datafill for the OFFHKIMM trigger” on page 582 provides the datafill for these three sample calls. Complete the instructions outlined in steps 1 to 3 to add sample tuples shown in Figure 109 and verify the datafill using TRAVER.

18.2.4.1 Example 1
Go off-hook from a POTS line (LEN HOST 00 0 01 06, DN 6136216106) that subscribes to an OFFHKIMM trigger item and the call triggers at OFFHKIMM. See trigger item output sample in Figure 112 on page 587.

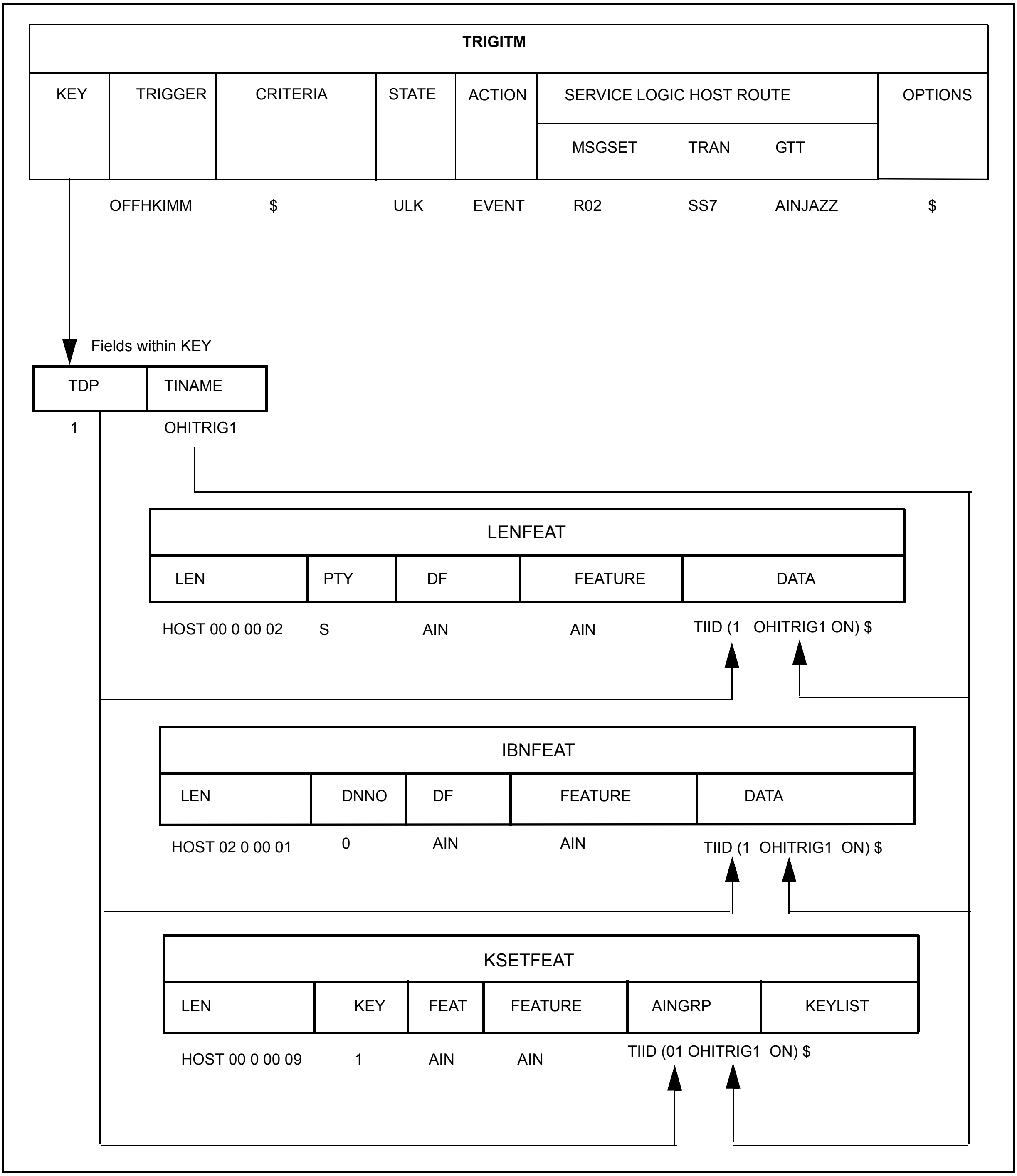
18.2.4.2 Example 2
Go off-hook from an MDC line (LEN HOST 00 0 00 02, DN 7226020) that subscribes to an OFFHKIMM trigger item and the call triggers at OFFHKIMM. See trigger item output sample in Figure 112 on page 587.

18.2.4.3 Example 3
Go off-hook from a EBS or MFT line (LEN HOST 00 0 00 21, DN 7224070) that subscribes to an OFFHKIMM trigger item and the call triggers at OFFHKIMM. See trigger item output sample in Figure 114 on page 589.

> ***Note 1:*** This trigger formulates and sends a query to the off-board processor as soon as the associated line goes off-hook. No digits need to be dialed. When using TRAVER to verify, you must specify the dialed digits as “N” to indicate no digits.
>
> ***Note 2:*** The order in the TRAVER output reflects the translation code only. Follow the datafilling hierarchy illustrated in Figure 110 on page 583 for the datafilling order.

In Figure 18 on page 577, the tuple in table LENFEAT is used in Example 1. The tuple in table IBNFEAT is used in Example 2. The tuple in table KSETFEAT is used in Example 3.

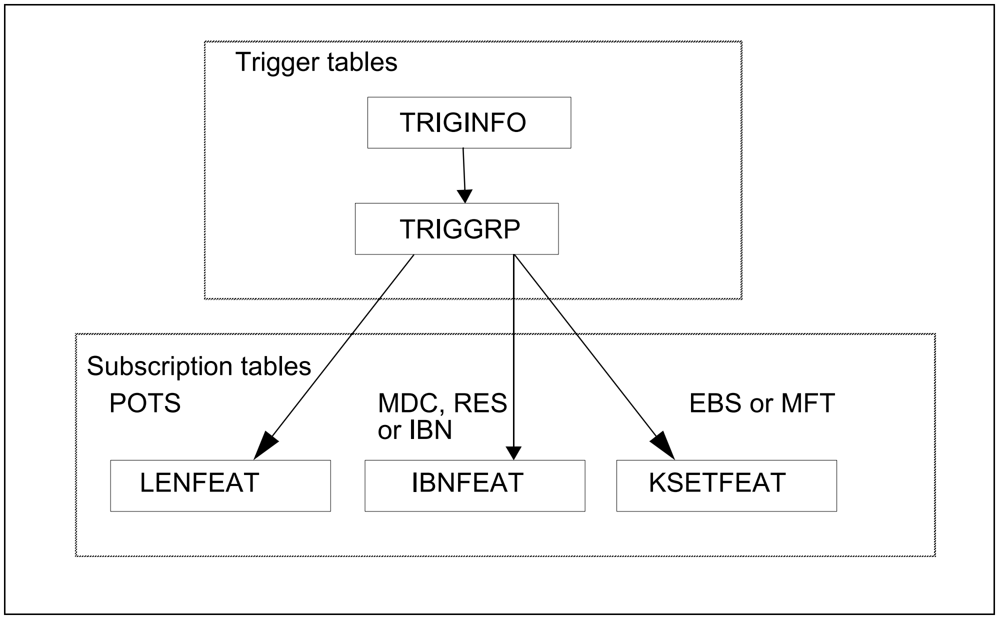
Figure 109 Sample datafill for the OFFHKIMM trigger



18.3 Trigger group provisioning interface

Figure 110 on page 583 illustrates the datafilling hierarchy for the OFFHKIMM trigger.

Figure 110 Datafilling hierarchy for OFFHKIMM trigger



18.3.1 Step 1: Datafilling table TRIGINFO

An INFONAME defines the action information, that is, what action the SSP takes if a call encounters a trigger and the criteria are met. For AIN Service Enablers, the SSP must send a query to the off-board processor using a particular messaging protocol and transport.

Assumptions regarding the datafilling of the ACTION field in all triggering examples are described in Chapter 17: “Provisioning assumptions” on page 575 through Chapter 37: “T_No_Answer trigger” on page 915.

18.3.2 Step 2: Datafilling table TRIGGRP

An AINGRP that contains the OFFHKIMM trigger must be defined in table TRIGGRP before it can be referenced in any subscription table.

Table TRIGGRP is keyed on the trigger group name and on TDP. A name must be created for the OFFHKIMM AINGRP (up to 16 characters). The TDP for the OFFHKIMM trigger type must be ORIGATT.

1. In response to the KEY prompt, enter the AINGRP name for this OFFHKIMM trigger group and the TDP.
2. In response to the TRIGGER prompt, enter “OFFHKIMM”.
3. In response to the CRITERIA prompt, the Call type (CT) criterion can be entered for the OFFHKIMM trigger This criterion is optional. At the CT prompt, enter VBINFO for voice or CMDATA for data. If the CT criterion is not specified, then both voice and data calls will trigger if all other criteria are satisfied.

When all desired criteria have been entered, enter $ at the CRITERIA prompt.

4. In response to the INFONAME prompt, enter the INFONAME you defined in Section 18.3.1 on page 583.

18.3.3 Step 3: Subscribing to trigger OFFHKIMM

Use SERVORD to subscribe to an agent. The AINGRP field (trigger group name) determines the provisioning interface selection. When a trigger group name is datafilled, the trigger group provisioning interface is used. When the keyword TIID is used, the trigger item provisioning interface is used.

Using SERVORD, enter command ADO to subscribe an existing agent. The following steps describe the procedure:

1. In response to the SONUMBER prompt, enter $.
2. In response to the DN_OR_LEN prompt, enter and existing DN or LEN.
3. In response to the OPTION prompt, enter AIN.
4. In response to the AINGRP prompt, enter the AINGRP name defined in step 2: “Datafilling table TRIGGRP”
5. In response to the OPTION prompt, enter $ to indicating trigger group assignments are complete.

Table LENFEAT stores subscriptions to AIN for POTS lines. Table IBNFEAT stores subscriptions to AIN for RES, IBN, and MDC lines. Table KSETFEAT stores subscriptions to AIN for EBS lines and MFT terminals.

Table 299 summarizes steps 1 to 3. It shows the trigger definition and subscription tables for the OFFHKIMM trigger type.

Table 299 Trigger definition and subscription tables for the OFFHKIMM trigger type

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Sub-scription tables	Option	SERVORD
ORIGATT	OFFHKIMM	CT	TRIGGRP TRIGINFO	Line (POTS)	LENFEAT	AIN	YES
				Line (MDC,RES, or IBN)	IBNFEAT		
				Line (EBS, MFT)	KSETFEAT		

18.3.4 Step 4: Verifying with TRAVER

Once the datafill has been set up for the OFFHKIMM trigger, the TRAVER utility can be used to verify the AIN Service Enablers triggering.

18.4 OFFHKIMM examples

This section describes three sample calls that trigger at OFFHKIMM. Figure 111 on page 586 illustrates the datafill for these three sample calls. It also shows the dependencies between the datafilling tables. Apply the instructions already outlined in steps 1 to 4 to add the sample tuples shown in Figure 111 on page 586 and to verify the datafill with TRAVER. The TRAVER output for the trigger group provisioning interface is shown in Figure 112 on page 587 to Figure 114 on page 589. The TRAVER output for the trigger item provisioning interface is shown in Figure 115 on page 590 to Figure 117 on page 591.

18.4.1 Example 1

Go off-hook from a POTS line (LEN HOST 00 0 01 06, DN 6136216106) that subscribes to an OFFHKIMM trigger group and the call triggers at OFFHKIMM. See trigger group output sample in Figure 112 on page 587 and trigger item output sample in Figure 115 on page 590.

18.4.2 Example 2

Go off-hook from an MDC line (LEN HOST 00 0 00 02, DN 7226020) that subscribes to an OFFHKIMM trigger group and the call triggers at OFFHKIMM. See trigger group output sample in Figure 113 on page 588 and trigger item output sample in Figure 116 on page 590.

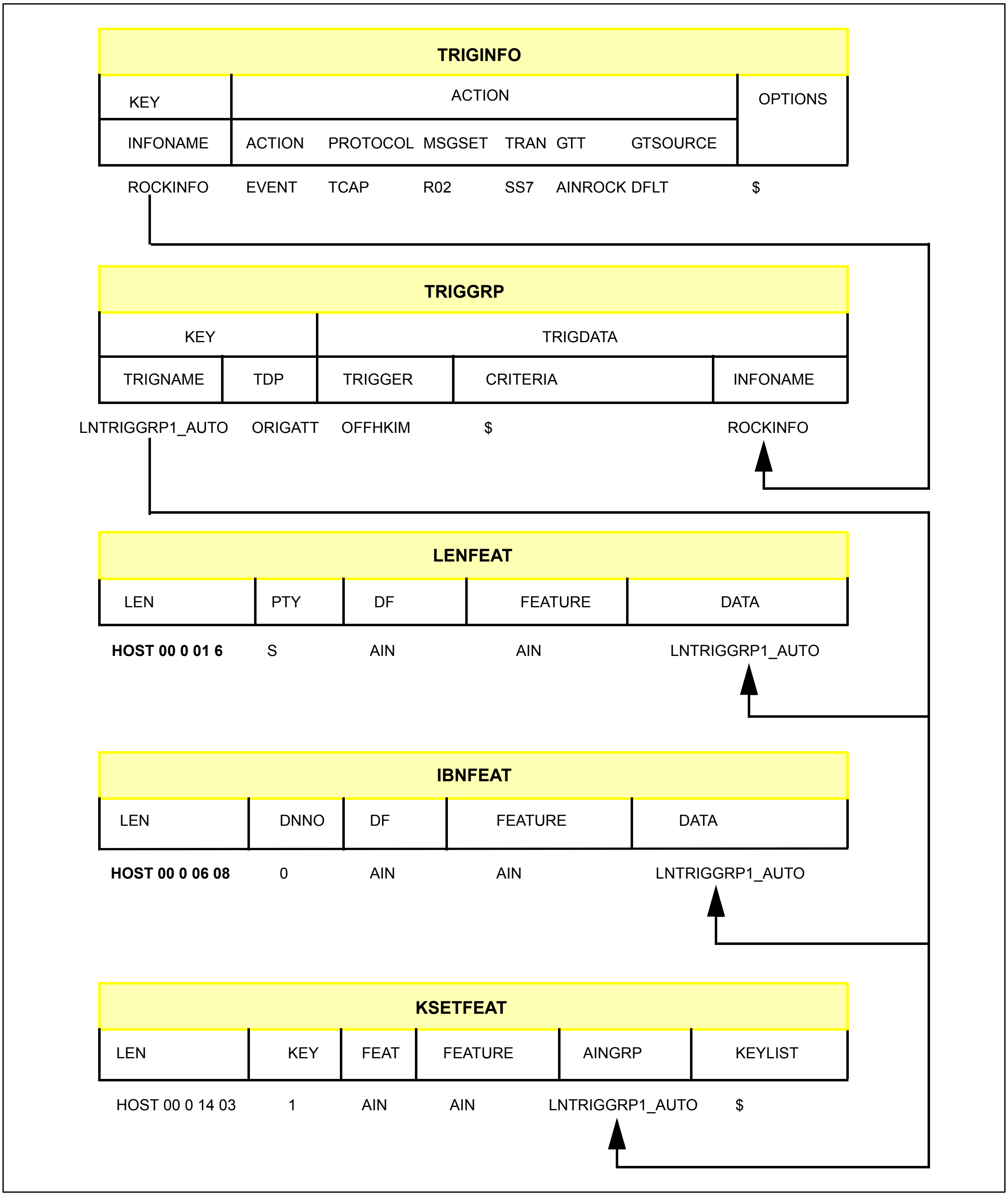
18.4.3 Example 3

Go off-hook from a EBS or MFT line (LEN HOST 00 0 00 21, DN 7224070) that subscribes to an OFFHKIMM trigger group and the call triggers at OFFHKIMM. See trigger group output sample in Figure 114 on page 589 and trigger item output sample in Figure 117 on page 591.

The tuple in table LENFEAT is used in Example 1. The tuple in table IBNFEAT is used in Example 2. The tuple in table KSETFEAT is used in Example 3.

> ***Note 1:*** This trigger formulates and sends a query to the off-board processor as soon as the associated line goes off-hook. No digits need to be dialed. When using TRAVER to verify, you must specify the dialed digits as “N” to indicate no digits.
>
> ***Note 2:*** The order in the TRAVER output reflects the translation code only. Follow the datafilling hierarchy illustrated in Figure 110 “Datafilling hierarchy for OFFHKIMM trigger” on page 583.

Figure 111 Sample datafill for the three OFFHKIMM examples



Note 1: This trigger formulates and sends a query to the off-board processor as soon as the associated line goes off-hook. No digits need to be

dialed. When using TRAVER to verify, you must specify the dialed digits as "N" to indicate no digits.

Note 2: The order in the TRAVER output reflects the translation code only. Follow the datafilling hierarchy illustrated in Figure 110 on page 583 for the datafilling order.

Figure 112 through Figure 117 on page 591 provide example TRAVER outputs for OFFHKIMM using both the trigger group and trigger item provisioning interfaces.

Figure 112 Trigger group TRAVER output for OFFHKIMM (example 1)

```
>TRAVER L 6136216101 N B
TABLE LINEATTR
871 1MR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_AIN1_862 L613_LATA1_55 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_AIN1_862 FR01 613 AIN1 TOPS N $ $
TABLE RATEAREA
L613_LATA1_55 L613 OTWA LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
HOST 00 0 01 06 S AIN AIN LNTRIGGRP1_AUTO
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE TRIGGRP
LNTRIGGRP1_AUTO ORIGATT
 . OFFHKIMM ( CT VBINFO)$ ROCKINFO
Trigger AIN OFFHKIMM is applicable to individual POTS line.
Trigger AIN OFFHKIMM: Trigger is active.
   (Use AINCI CHANGESTATE command to alter activation state.)
 .  . TABLE TRIGINFO
 .  . ROCKINFO EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE LENFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6136216101 6136216101 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Orig Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 112 Trigger group TRAVER output for OFFHKIMM (example 1) (Continued)

```
AIN Orig Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 113 Trigger group TRAVER output for OFFHKIMM (example 2)

```
>TRAVER L 6137226120 N B
TABLE IBNLINES
HOST 00 0 06 08 0 DT STN IBN 7226120 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
HOST 00 0 06 08 0 AIN AIN LNTRIGGRP1_AUTO
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE TRIGGRP
LNTRIGGRP1_AUTO ORIGATT
 . OFFHKIMM ( CT VBINFO)$ ROCKINFO
Trigger AIN OFFHKIMM is applicable to individual IBN line.
Trigger AIN OFFHKIMM: Trigger is active.
   (Use AINCI CHANGESTATE command to alter activation state.)
 .  . TABLE TRIGINFO
 .  . ROCKINFO EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137226120 6137226120 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Orig Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Orig Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
```

Figure 113 Trigger group TRAVER output for OFFHKIMM (example 2) (Continued)

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

Figure 114 Trigger group TRAVER output for OFFHKIMM (example 3)

```
>TRAVER L 6137226300 N B
TABLE KSETLINE
HOST 00 0 14 03 1 DN Y 7226300 COMKODAK 0 0 613 (CWT) (3WC) (RAG) (CFX)
(AIN) $
    MBS
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE KSETFEAT
HOST 00 0 14 03 1 AIN AIN LNTRIGGRP1_AUTO (1) $
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE TRIGGRP
LNTRIGGRP1_AUTO ORIGATT
 . OFFHKIMM ( CT VBINFO)$ ROCKINFO
Trigger AIN OFFHKIMM is applicable to individual IBN line.
Trigger AIN OFFHKIMM: Trigger is active.
   (Use AINCI CHANGESTATE command to alter activation state.)
 .  . TABLE TRIGINFO
 .  . ROCKINFO EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE KSETFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137226300 6137226300 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Orig Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Orig Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 115 Trigger item TRAVER output for OFFHKIMM Example 1

```
>TRAVER L 6136216101 N B
TABLE LINEATTR
871 1MR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_AIN1_862 L613_LATA1_55 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_AIN1_862 FR01 613 AIN1 TOPS N $ $
TABLE RATEAREA
L613_LATA1_55 L613 OTWA LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
HOST 00 0 01 06 S AIN AIN TIID (1 OHI1 ON) $
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
Checking AIN OFFHKIMM Trigger Items as OFFHKIMM is compatible with current
call
 .  . TABLE TRIGITM
 .  . 1 OHI1 OFFHKIMM (CT VBINFO) $ ULK EVENT R02 SS7 AINROCK $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE LENFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6136216101 6136216101 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Orig Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Orig Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 116 Trigger item TRAVER output for OFFHKIMM Example 2

```
>TRAVER L 6137226120 N B
TABLE IBNLINES
HOST 00 0 06 08 0 DT STN IBN 7226120 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
```

Figure 116 Trigger item TRAVER output for OFFHKIMM Example 2 (Continued)

```
TUPLE NOT FOUND
TABLE IBNFEAT
HOST 00 0 06 08 0 AIN AIN TIID (1 OHI1 ON) $
TABLE CUSTSTN
COMKODAK AIN AIN TIID
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
Checking AIN OFFHKIMM Trigger Items as OFFHKIMM is compatible with current
call
 .  . TABLE TRIGITM
 .  . 1 OHI1 OFFHKIMM (CT VBINFO) $ ULK EVENT R02 SS7 AINROCK $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137226120 6137226120 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Orig Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Orig Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 117 Trigger item TRAVER output for OFFHKIMM Example 3

```
>TRAVER L 6137226300 N B
TABLE KSETLINE
HOST 00 0 14 03 1 DN Y 7226300 COMKODAK 0 0 613 (CWT) (3WC) (RAG) (CFX)
(AIN) $
    MBS
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE KSETFEAT
HOST 00 0 14 03 1 AIN AIN TIID (1 OHI1 ON) $ (1) $
TABLE CUSTSTN
COMKODAK AIN AIN TIID
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
```

Figure 117 Trigger item TRAVER output for OFFHKIMM Example 3 (Continued)

```
Checking AIN OFFHKIMM Trigger Items as OFFHKIMM is compatible with current
call
 .  . TABLE TRIGITM
 .  . 1 OHI1 OFFHKIMM (CT VBINFO) $ ULK EVENT R02 SS7 AINROCK $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE KSETFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137226300 6137226300 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Orig Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Orig Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

19 Off-Hook_Delay trigger

ATTENTION
Trigger OFFHKDEL can be provisioned in two ways: either by using the trigger item or trigger group provisioning interface. A subscriber (office, customer group, or individual agent) can only subscribe to triggers defined by one provisioning interface, however, a call can encounter triggers provisioned in different provisioning interfaces at different subscription levels.

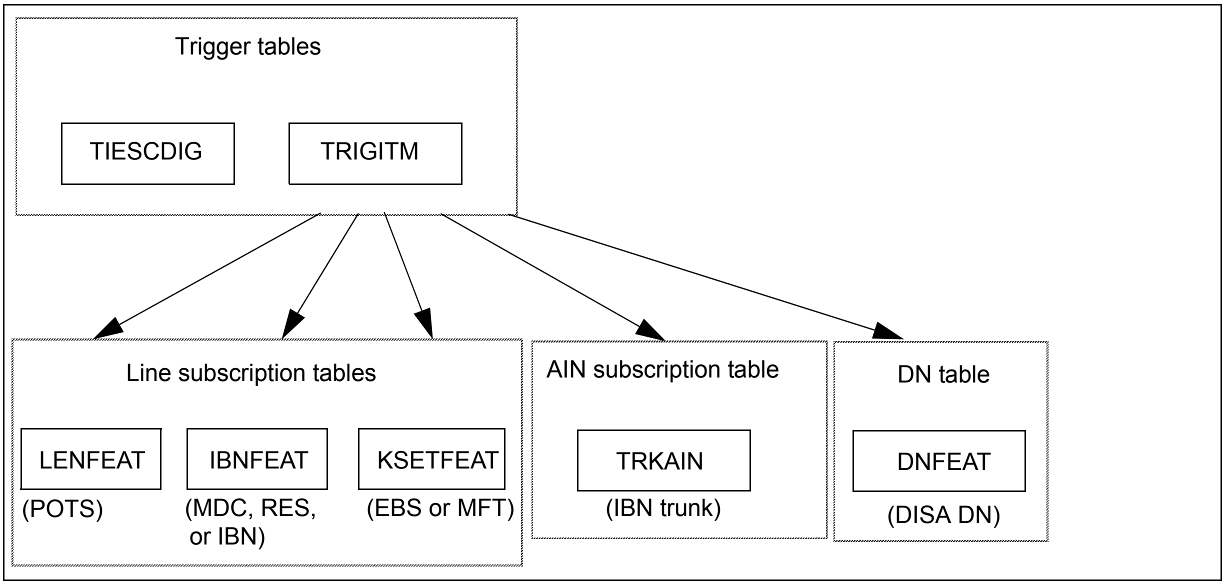
19.1 General

Trigger Off-Hook_Delay (OFFHKDEL) occurs at the Info_Collected (INFOCOL) trigger detection point, in the originating basic call model (BCM). Trigger OFFHKDEL formulates and sends a query to the off-board processor after the dialed digits are collected.

19.2 Trigger item provisioning interface

Figure 118 on page 594 shows the datafilling steps required by the OFFHKDEL trigger item.

Figure 118 Datafilling hierarchy for the OFFHKDEL trigger



19.2.1 Step 1: Datafilling table TIESCDIG

This table is used to specify digits required to escape the trigger. The key consists of two parts: ESCGRP and ESCDIGS. ESCGRP specifies the name of the group of escape codes.

1. At the ESCGRP prompt, type a name for the escape code, such as CRIT1.
2. At the ESCDIGS prompt, type the digits to escape the trigger, such as 911.

19.2.2 Step 2: Datafilling table TRIGITM

The OFFHKDEL trigger type is non-digit based. To specify an OFFHKDEL trigger, trigger item actions must be datafilled in table TRIGITM. This information indicates the action to be performed by the SSP when the criterion is met.

1. In response to the TDP prompt, enter 3. This is the numeric code for the Information_Collected TDP.
2. In response to the TINAME prompt, enter the trigger item identifier you wish to use. For example, enter OHD2.
3. In response to the TRIGGER prompt, enter OFFHKDEL.
4. For the CRITERIA subfield prompts, enter any of the following for the OFFHKDEL trigger. When the desired criteria has been entered, type $ at the CRITERIA prompt.

   Escape digits (ESCDIG) criterion: this criterion is optional. The trigger is not encountered when the dialed digits (without the prefix) match any of the digits strings in the specified escape code list in table TIESCDIG. At the ESCGROUP prompt, enter a valid escape name from table TIESCDIG.

Escape meridian digital centrex (ESCMDC) criterion: this criterion is optional. The trigger is not encountered on intragroup range calls when this criterion is specified. An incoming IBN trunk that is subscribed to OHD (with ESCMDC criteria) escapes OHD when a CENTREX intragroup call is placed over the incoming IBN trunk.

Call type (CT) criterion: this criterion is optional. When the CT criterion is not specified, both voice and data calls trigger when all other criteria are satisfied. At the CT prompt, type VBINFO for voice or CMDATA for data.

Note: When the CT criterion is specified, enter it as the first criteria.

5. In response to the STATE field, enter LK or ULK. LK deactivates a trigger item; ULK activates a trigger item.
6. In response to the ACTION prompt, type EVENT. EVENT instructs the SSP to launch a query when the trigger criterion has been satisfied. ESCAPE is not valid for this trigger.
7. In response to the Service Logic Host Route (SLHR) subfield prompts, enter the following:
   - In response to the MSGSET prompt, enter R02 and R01.
   - In response to the TRANSPORT prompt, enter SS7.
   - In response to the GTT prompt, enter a Global Title Translation variable. For example, AINJAZZ.
8. In response to the OPTION prompt, type $. No options are valid for this trigger.

19.2.3 Step 3: Subscribing to trigger OFFHKDEL

Use SERVORD to subscribe to an agent. The AINGRP field (trigger group name) determines the provisioning interface selection. When a trigger group name is datafilled, the trigger group provisioning interface is used. When the keyword, TIID is datafilled, the trigger item provisioning interface is used.

From SERVORD invoke command ADO to subscribe to an existing agent. The following steps describe the procedure:

1. In response to the SONUMBER prompt, enter $.
2. In response to the DN_OR_LEN prompt, enter and existing DN or LEN.
3. In response to the OPTION prompt, enter AIN.
4. In response to the AINGRP prompt, enter TIID.

5. In response to the TIASGN prompt, enter 3 to specify the Info_Collected TDP.
6. In response to the TINAME prompt, enter the 8 character alphanumeric string of a valid trigger item in table TRIGITM.
7. In response to the TRIGACT prompt, enter ON or OFF for the trigger activation state.
8. In response to the OPTION prompt, enter $ to indicating trigger item assignments are complete.

Table LENFEAT stores subscriptions to AIN for POTS lines. Table IBNFEAT stores subscriptions to AIN for RES, IBN, and MDC lines. Table KSETFEAT stores subscriptions to AIN for EBS lines and MFT terminals. Table DNFEAT is used to store subscription to AIN for DISA DNs. Table TRKAIN is used to store AIN subscription for trunk groups. Modifications to table TRKAIN are only supported by table control.

Table 300 summarizes datafill requirements for the OFFHKDEL trigger type.

Table 300 OFFHKDEL trigger definition and subscription table

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Sub-scription tables	Option	SERVORD
INFOCOL	OFFHKDEL	CT ESCMDC	TRIGITM	Line (POTS)	LENFEAT	AIN	YES
				Line (MDC, RES)	IBNFEAT		
				Line (EBS, MFT)	KSETFEAT		
		ESCDIG	TRIGESC	DISA DN	DNFEAT		YES
				Trunk group (IBN)	TRKAIN		NO

19.2.4 Sample OFFHKDEL datafill

Table 301 illustrates sample datafill for trigger OFFHKDEL.

Table 301 Table IBNFEAT

LEN	DNNO	DF	FEATURE	DATA
				AINGRP
HOST 02 0 00 01	0	AIN	AIN	TIID (3 OFFHDEL ON) $

Table 302 illustrates sample datafill for subscribing trigger OFFHKDEL to an agent.

Table 302 Table TRIGITM

TIID		Trigger	Criteria	State	Action	Msg Set	Tran sport	GTT	Option
TDP	NAME								
3	OHD2	OFFHKDEL	(ESCDIG CRIT1)$	ULK	EVENT	R02	SS7	AIN JAZZ	$

Figure 119 on page 598 shows some sample datafill for the OFFHKDEL trigger.

Figure 119 Sample datafill for the OFFHKDEL trigger

TI ESCDIG

CRIT1	911

TRIGITM

KEY	TRIGGER	CRITERIA	STATE	ACTION	SERVICE LOGIC HOST ROUTE			OPTIONS
					MSGSET	TRAN	GTT	
	OFFHKDEL	(CT VBINFO) (ESCDIG CRIT1)$	ULK	EVENT	R02	SS7	AINJAZZ	$

Fields within KEY

TDP	TINAME
3	OFFDEL

LENFEAT

LEN	PTY	DF	FEATURE	DATA
HOST 00 0 00 02	S	AIN	AIN	TIID(3 OFFDEL ON)$

IBNFEAT

LEN	DNNO	DF	FEATURE	DATA
HOST 00 0 00 30	0	AIN	AIN	TIID(3 OFFDEL ON)$

TRKGRP

GRPKEY	GRPTYP	Other fields
ISUPIBNIC	IBNTI	...
ISUPIBN2W	IBNT2	...
OHD1LOOPICO	IBNT2	...

TRKAIN

GRPKEY	AINGRP
ISUPIBNIC	OHDTRIG
ISUPIBN2W	OHDTRIG
OHD1LOOPICO	TIID(3 OFFDEL ON)$

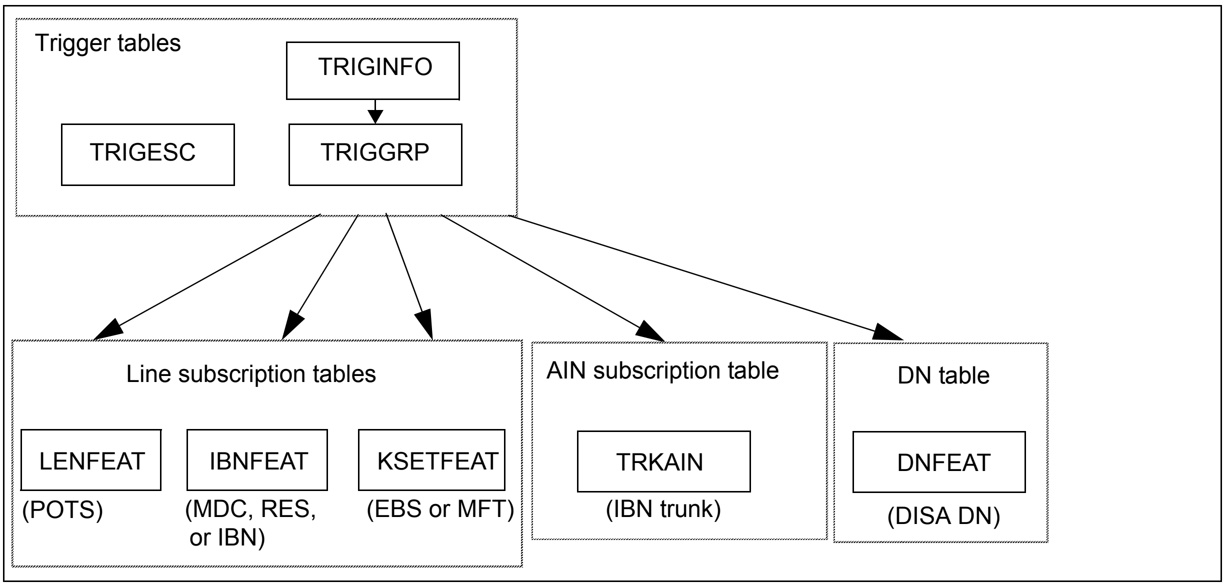
DNFEAT

AREACODE	OFCCODE	STNCODE	DNOPT	AINGRP
613	722	9090	(AINDN	DNTRIG)$
613	621	2502	(AIN	TIID (3 OFFDEL ON)$)$

19.3 Trigger group provisioning interface

Figure 120 illustrates the datafilling steps for trigger OFFHKDEL.

Figure 120 Datafilling hierarchy for trigger OFFHKDEL



19.3.1 Step 1: Datafilling table TRIGESC

Escape codes provide a way for subscribers of trigger Off-Hook Delay to make certain calls (for example, to 911) without triggering at the Off-Hook Delay trigger. The SSP maintains a list of all escape codes in table TRIGESC. These codes must be valid North American numbering plan numbers or an N11 service code.

Escape from trigger Off-Hook Delay occurs in the following situations:

- A call is received from a line or trunk group using a public office dialing plan where the dialed digits correspond to a vertical service code (VSC) plus a number on the administered escape code list. The VSC may be used for a switch-based feature or an AIN feature.
- A call is received from a line or trunk group using a private dialing plan where the dialed digits correspond to an access code that results in the call being routed over the public network plus a number on the administered escape code list.

If escape from the Off-Hook Delay trigger occurs, triggering does not take place, no query is sent, and call processing continues at the INFOANAL point in call. Subsequent triggering may take place at subsequent trigger detection points (TDPs).

> ***Note:*** If several variations of a number on the escape code list may be dialed, all variations of that number must occur in the list. For example, if NXX-XXXX is on the escape code list and users may optionally dial the NPA, then NPA-NXX-XXXX should also occur on the escape code list.

The length of the escape code may be 1 to 18 digits. The digits in TRIGESC must match the result of removing prefix digits from the string of dialed digits as shown in Table 303.

Table 303 Dialed digits and matching TRIGESC digits

Dialed digits	Matched TRIGESC digits
911, 9911	911
16137225001	6137225001
18002421692	8002421692
107770	0

19.3.1.1 Examples

Use the TRAVER tool to determine whether a call escapes. See Section 19.3.16 “Verifying with TRAVER” on page 606 (examples 1 and 2) for details.

19.3.2 Step 2: Datafilling table TRIGINFO

An INFONAME defines the action information, that is, what action the SSP takes if a call encounters a trigger and the criteria are met. For AIN Service Enablers, the SSP must send a query to the off-board processor using a particular messaging protocol and transport.

Assumptions regarding the datafilling of the ACTION field in all triggering examples are described in Chapter 17: “Provisioning assumptions” on page 575.

1. In response to the KEY prompt, enter the INFONAME you wish to use, for example, AINSIM.
2. In response to the ACTION prompt, enter EVENT.
3. In response to the PROTOCOL prompt, enter TCAP.
4. In response to the MSGSET prompt, enter R02.
5. In response to the TRANSPORT prompt, enter SS7.
6. In response to the GTT prompt, enter AINJAZZ.
7. In response to the DFLT prompt, enter DFLT.
8. In response to the OPTION prompt, enter $.

19.3.3 Step 3: Datafilling table TRIGGRP

An AINGRP that contains the OFFHKDEL trigger must be defined in table TRIGGRP before it can be referenced in any subscription table.

Table TRIGGRP is keyed on the trigger group name and TDP. Create a name for the OFFHKDEL AINGRP (up to 16 characters). The TDP for the OFFHKDEL trigger type must be INFOCOL.

1. In response to the KEY prompt, enter a name for the OFFHKDEL AINGRP, and also the TDP. In this case the TDP is INFOCOL.
2. In response to the TRIGGER prompt, enter OFFHKDEL.
3. In response to the CRITERIA prompt, the following criteria can be entered for the OFFHKDEL trigger
   - Call type (CT) criterion, this criterion is optional. At the CT prompt, enter VBINFO for voice, or CMDATA for data. When the CT criterion is not specified, then both voice and data calls trigger when all other criteria are satisfied.
   - Escape (ESC) criterion, this criterion is mandatory. When specified, the trigger can escape when the dialed digits match any in table TRIGESC.
   - Escape intragroup call (ESCMDC) criterion, when specified, trigger Off-Hook_Delay is not encountered when the call is placed in the same customer group. An incoming IBN trunk that is subscribed to OHD with ESCMDC criteria, can escape OHD when a CENTREX intragroup call is placed over the incoming IBN trunk.

   When all desired criteria have been entered, enter $ at the CRITERIA prompt.
4. In response to the INFONAME prompt, enter the INFONAME defined in Section 19.3.2 “Step 2: Datafilling table TRIGINFO” on page 600.
5. When all required triggers have been entered, enter $ at the TRIGGER prompt.

19.3.4 Step 4: Subscribing agents and trunks to AIN

Use SERVORD to subscribe to an agent. The AINGRP field (trigger group name) determines the provisioning interface selection. When a trigger group name is datafilled, the trigger group provisioning interface is used. When the keyword, TIID is datafilled, the trigger item provisioning interface is used.

From SERVORD invoke command ADO to subscribe to an existing agent. The following steps describe the procedure:

1. In response to the SONUMBER prompt, enter $.
2. In response to the DN_OR_LEN prompt, enter and existing DN or LEN.

3. In response to the OPTION prompt, enter AIN.
4. In response to the AINGRP prompt, enter the AINGRP name defined in step 3: "Datafilling table TRIGGRP".
5. In response to the OPTION prompt, enter $ to indicating trigger group assignments are complete.

Table LENFEAT stores subscriptions to AIN for POTS lines. Table IBNFEAT stores subscriptions to AIN for RES, IBN, and MDC lines. Table KSETFEAT stores subscriptions to AIN for EBS lines and MFT terminals. Table DNFEAT stores subscriptions to AIN for DISA DNs. Table TRKAIN stores AIN subscriptions for trunk groups. Modifications to table TRKAIN are only supported by table control.

Table 304 summarizes datafill requirements for the OFFHKDEL trigger type.

Table 304 OFFHKDEL trigger definition and subscription table

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Sub-scription tables	Option	SERVORD
INFOCOL	OFFHKDEL	CT	TRIGGRP TRIGINFO	Line(POTS)	LENFEAT	AIN	YES
		ESC (M) ESCMDC	TRIGESC	Line (MDC, RES)	IBNFEAT		
				Line (EBS, MFT)	KSETFEAT		
				DISA DN	DNFEAT		No
				Trunk group (IBN)	TRKGRP		No
					TRKAIN		No

19.3.5 Step 5: Verifying with TRAVER

Once datafill has been set up for the OFFHKDEL trigger, use TRAVER to verify AIN Service Enablers triggering (other than for DISA DNs).

This section describes sample calls that trigger at OFFHKDEL. Figure 121 on page 604 illustrates the datafill for these sample calls. It also shows the dependencies between the datafilling tables. Apply the instructions outlined previously to add the sample tuples shown in Figure 121 on page 604 and verify the datafill with TRAVER. The TRAVER output is shown in Figure 122 on page 606 to Figure 141 on page 635.

19.3.6 Example 1: POTS line

From a POTS line (LEN HOST 00 0 01 07, DN 6136216102) that subscribes to OFFHKDEL trigger, dial 2132512000. The call triggers at OFFHKDEL. (See sample output in Figure 122 on page 606.)

19.3.7 Example 2: POTS line (ESC)

From a POTS line (LEN HOST 00 0 01 07, DN 6136216102) that subscribes to OFFHKDEL trigger, dial 911. The call escapes and does not trigger at OFFHKDEL. The call proceeds to the Info_Analyzed TDP and triggers at N11. (See sample output in Figure 123 on page 607.)

19.3.8 Example 3: MDC line

From an MDC line (LEN HOST 00 0 6 10, DN 6137226122) that subscribes to OFFHKDEL trigger, dial 92132512000. The call triggers at OFFHKDEL. (See sample output in Figure 124 on page 609.)

19.3.9 Example 4: IBNTI trunk

From the incoming trunk ISUPIBNIC, digits 25028 are impulsed. Since the ISUPIBNIC has subscribed to an OFFHKDEL AINGRP called ENAUTO_OHD, the call triggers at OFFHKDEL. (See sample output in Figure 125 on page 611.)

> ***Note:*** The escape criterion is not applicable because the call is in the private environment.

19.3.10 Example 5: IBNT2 trunk

From the incoming trunk ISUPIBN2W, digits 25028 are impulsed. Since the ISUPIBN2W trunk has subscribed to an OFFHKDEL AINGRP called ENAUTO_OHD, the call triggers at OFFHKDEL. (See sample output in Figure 126 on page 612.)

> ***Note:*** The escape criterion is not applicable because the call is in the private environment

19.3.11 Example 6: PRI IBNT2 trunk

From the incoming trunk OHD1LOOPICO, digits 6214444 are impulsed. Since the AUTO_OHDLOOPIC trunk has subscribed to an OFFHKDEL AINGRP called ENAUTO_OHD, the call triggers at OFFHKDEL. (See sample output in Figure 127 on page 614.)

19.3.12 Example 7: PRI trunk

From the incoming trunk PRACMR1AIC, digits 6214444 are impulsed. Since the PRACMR1AIC trunk has subscribed to an OFFHKDEL AINGRP called ENAUTO_OHD, the call triggers at OFFHKDEL trigger. (See sample output in Figure 128 on page 616.)

Figure 121 Sample datafill for the OFFHKDEL examples

TRIGESC
KEY
911

TRIGINFO

KEY	ACTION						OPTIONS
INFONAME	ACTION	PROTOCOL	MSGSET	TRAN	GTT	GTSOURCE	
AINROCK	EVENT	TCAP	R01	SS7	AINJAZZ	DFLT	$

TRIGGRP

KEY		TRIGDATA		
TRIGNAME	TDP	TRIGGER	CRITERIA	INFONAME
OHDTRIG	INFOCOL	OFFHKDEL	ESC	AINROCK

LENFEAT

LEN	PTY	DF	FEATURE	DATA
HOST 00 0 01 07	S	AIN	AIN	OHDTRIG

IBNFEAT

LEN	DNNO	DF	FEATURE	DATA
HOST 00 0 06 10	0	AIN	AIN	OHDTRIG

TRKGRP

GRPKEY	GRPTYP	Other fields
ISUPIBNIC	IBNTI	...
ISUPIBN2W	IBNT2	...
AUTO_OHDLOOPIC	IBNT2	...
PRACMR1AIC	PRA	...

TRKAIN

GRPKEY	AINGRP
ISUPIBNIC	OHDTRIG
ISUPIBN2W	OHDTRIG
AUTO_OHDLOOPIC	OHDTRIG
PRACMR1AIC	OHDTRIG

In Figure 121 on page 604, the tuple in table LENFEAT is used in examples 1 and 2. The tuple in table IBNFEAT is used in Example 3. The four tuples in table TRKAIN are used in examples 4 to 7 respectively.

Since there is no example given for triggering OFFHKDEL from an EBS, MFT set, or a DISA DN, tables KSETFEAT and DNFEAT are not included in Figure 121 on page 604. The tuple in Table 305 is not used in any of the OFFHKDEL examples. It is listed only for reference. It shows an EBS terminal (7228862) with LEN HOST 00 0 00 09 that subscribes to the AIN OHDTRIG trigger group. The AIN service is assigned to the whole set as in Table 305. Table 306 shows DISA DN subscription on table DNFEAT.

Table 305 Sample AIN subscription tuple in table KSETFEAT for EBS or MFT terminals

FEATKEY			FEATURE	KVAR	
LEN	KEY	FEAT		AINGRP	KEYLIST
HOST 00 0 00 09	1	AIN	AIN	OHDTRIG	$

Table 306 Sample AIN subscription tuple in table DNFEAT for DISA DN

AREACODE	OFCCODE	STNCODE	DNOPT	AINGRP
613	621	2502	AIN	OHDTRIG

19.3.13 Example 8: MDC line (ESCMDC)

From an MDC line (LEN HOST 00 1 02 25 0, DN 7224025 of Customer Group COMKODAK) that subscribes to OFFHKDEL trigger with the escape criteria ESCMDC, dials 14026 DN of the same Customer Group (COMKODAK). The call escapes and does not trigger at OFFHKDEL. (See sample output in Figure 129 on page 618.)

19.3.14 Example 9: IBNTI trunk (ESCMDC)

From the incoming trunk CXDKMFIBNTI, digits 14026 are impulsed. Since the CXDKMFIBNTI has subscribed to an OFFHKDEL, AINGRP called MDCGRP, the call escapes and does not trigger at OFFHKDEL (See sample output in Figure 130 on page 619.)

19.3.15 Example 10: MDC line (ESCMDC)

From an MDC line (LEN HOST 00 1 02 25 0, DN 7224025 of Customer Group COMKODAK) that subscribes to OFFHKDEL trigger with the escape criteria ESCMDC, dial 96211030 a public DN number. The call does not escapes and triggers at the OFFHKDEL. The call escapes and does not trigger at OFFHKDEL. (See sample output in Figure 131 on page 620.)

19.3.16 Verifying with TRAVER

Note: The order in TRAVER reflects the translation order. See the datafilling hierarchy in Figure 120 "Datafilling hierarchy for trigger OFFHKDEL" on page 599.

Figure 122 to Figure 131 on page 620 provide TRAVER outputs for the OFFHKDEL examples.

Figure 122 Sample TRAVER output for OFFHKDEL (example 1)

```
>TRAVER L 6136216102 2132512000 B
TABLE LINEATTR
0 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
HOST 00 0 06 12 S AIN AIN ENAUTO_OHD
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 213 250 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 213 216 HNPA 0
 . 251 255 LRTE 800
 . SUBTABLE RTEREF
 .  800 S D AIN_DUMMY_TRK
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LNP Info: Called DN is not resident.
```

Figure 122 Sample TRAVER output for OFFHKDEL (example 1) (Continued)

```
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL NP N DD UNDT
TABLE CLSVSCRC
KEY NOT FOUND
TABLE LATAXLA
TUPLE NOT FOUND
ASSUMED TO BE DEFAULT INTRALATA, INTRASTATE, STD
TABLE TRIGGRP
ENAUTO_OHD INFOCOL
 . OFFHKDEL ( CT VBINFO) ( ESC )$ ENAUTO
Trigger AIN OFFHKDEL is applicable to individual POTS line.
Trigger AIN OFFHKDEL: Trigger is active.
   (Use AINCI CHANGESTATE command to alter activation state.)
 .  . TABLE TRIGESC
 .  . TUPLE NOT FOUND
 .  . TABLE TRIGINFO
 .  . ENAUTO EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE LENFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6136216102 6136216102 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 123 Sample TRAVER output for OFFHKDEL (example 2) (ESC)

```
>TRAVER L 6136216102 911 B
TABLE LINEATTR
0 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
```

Figure 123 Sample TRAVER output for OFFHKDEL (example 2) (ESC) (Continued)

```
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
HOST 00 0 06 12 S AIN AIN ENAUTO_OHD
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 911 911 T OA 0 OFRT 102 3 3 NONE
 .  . TABLE OFRT
 .  .  102 N D EMGY 0 N Y
 .  .      N D INBOPTR 3 N Y
 .  . EXIT TABLE OFRT
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE LATAXLA
TUPLE NOT FOUND
ASSUMED TO BE DEFAULT INTRALATA, INTRASTATE, STD
TABLE TRIGGRP
ENAUTO_OHD INFOCOL
 . OFFHKDEL ( CT VBINFO) ( ESC )$ ENAUTO
Trigger AIN OFFHKDEL is applicable to individual POTS line.
Trigger AIN OFFHKDEL: Trigger is active.
   (Use AINCI CHANGESTATE command to alter activation state.)
 .  . TABLE TRIGESC
 .  . 911
AIN Info Collected TDP: trigger criteria not met.
TABLE TRIGGRP
OFCTRIGGRP_ALL INFOANAL
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
 .  . TABLE TRIGDIG
 .  . N11DIG N11 911 N11 EVENT TCAP R01 SS7 AINJAZZ DFLT $
```

Figure 123 Sample TRAVER output for OFFHKDEL (example 2) (ESC) (Continued)

```
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 9110000000 9110000000 SSNONLY (AINTEST) $
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 124 Sample TRAVER output for OFFHKDEL (example 3)

```
>TRAVER L 6137226122 92132512000 B
TABLE IBNLINES
HOST 00 0 06 10 0 DT STN IBN 7226122 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
HOST 00 0 06 10 0 AIN AIN ENAUTO_OHD
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
```

Figure 124 Sample TRAVER output for OFFHKDEL (example 3) (Continued)

```
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 213 250 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 213 216 HNPA 0
 . 251 255 LRTE 800
 . SUBTABLE RTEREF
 .  800 S D AIN_DUMMY_TRK
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL NP N DD UNDT
TABLE CLSVSCRC
KEY NOT FOUND
TABLE TRIGGRP
ENAUTO_OHD INFOCOL
 . OFFHKDEL ( CT VBINFO) ( ESC )$ ENAUTO
Trigger AIN OFFHKDEL is applicable to individual IBN line.
Trigger AIN OFFHKDEL: Trigger is active.
   (Use AINCI CHANGESTATE command to alter activation state.)
 .  . TABLE TRIGESC
 .  . TUPLE NOT FOUND
 .  . TABLE TRIGINFO
 .  . ENAUTO EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE IBNFEAT
```

Figure 124 Sample TRAVER output for OFFHKDEL (example 3) (Continued)

```
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137226122 6137226122 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 125 Sample TRAVER output for OFFHKDEL (example 4)

```
>TRAVER TR ISUPIBNIC 25028 AIN AINCHG 6137232732 B
TABLE TRKGRP
ISUPIBNIC IBNTI 0 ELO NCRT COMKODAK 0 0 6137224111 ANSDISC 0 Y N N N N N N
0 0 N
    N N N Y FGD Y N $ NATL $
 .  . TABLE TRKAIN
 .  . ISUPIBNIC ENAUTO_OHD
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 2 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 25 EXTN N N 613 722 5 $ $
TABLE TOFCNAME
613 722 $
TABLE DNINV
613 722 5028 D BLDN
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
```

Figure 125 Sample TRAVER output for OFFHKDEL (example 4) (Continued)

```
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE TMTCNTL
TITRKGRP ( 109)
 . SUBTABLE TREAT
 . BLDN Y S T120
TABLE TRIGGRP
ENAUTO_OHD INFOCOL
 . OFFHKDEL ( CT VBINFO) ( ESC )$ ENAUTO
Trigger AIN OFFHKDEL is applicable to individual IBN trunk.
Trigger AIN OFFHKDEL: Trigger is active.
   (Use AINCI CHANGESTATE command to alter activation state.)
 .  . TABLE TRIGINFO
 .  . ENAUTO EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137232732 6137232732 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Note: Since this is a private call, there is no need to look into table TRIGESC even though the escape (ESC) criterion is specified. Look into TRIGESC for public calls only.

Figure 126 Sample TRAVER output for OFFHKDEL (example 5)

```
>TRAVER TR ISUPIBN2W 25028 AIN AINCHG 6137239834 B
TABLE TRKGRP
ISUPIBN2W IBNT2 0 ELO NCRT COMKODAK 0 MIDL 0 N ANSDISC 0 Y N N N N N Y 0 0
N 0 0
    0 0 N N N N N N N N N NATL $
 .  . TABLE TRKAIN
```

Figure 126 Sample TRAVER output for OFFHKDEL (example 5) (Continued)

```
 .  . ISUPIBN2W ENAUTO_OHD
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 2 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 25 EXTN N N 613 722 5 $ $
TABLE TOFCNAME
613 722 $
TABLE DNINV
613 722 5028 D BLDN
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE TMTCNTL
TITRKGRP ( 109)
 . SUBTABLE TREAT
 . BLDN Y S T120
TABLE TRIGGRP
ENAUTO_OHD INFOCOL
 . OFFHKDEL ( CT VBINFO) ( ESC )$ ENAUTO
Trigger AIN OFFHKDEL is applicable to individual IBN trunk.
Trigger AIN OFFHKDEL: Trigger is active.
   (Use AINCI CHANGESTATE command to alter activation state.)
 .  . TABLE TRIGINFO
 .  . ENAUTO EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137239834 6137239834 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 126 Sample TRAVER output for OFFHKDEL (example 5) (Continued)

```
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Note: Since this is a private call, there is no need to look into table TRIGESC even though the escape (ESC) criterion is specified. Look into TRIGESC only for a public call.

Figure 127 Sample TRAVER output for OFFHKDEL (example 6)

```
>TRAVER TR AUTO_OHDLOOPIC 6214444 AIN AINCHG 6137224351 B
TABLE TRKGRP
AUTO_OHDLOOPIC IBNT2 0 NPDGP NCRT COMKODAK 2 ASEQ 0 6136216666 ANSDISC 0 Y
N N N
    N N Y 0 0 N 0 0 0 0 N N N N N N N N NATL (LTID ISDN 952) $
TABLE LTCALLS
ISDN 952 PUB XLALEC 601 613_EAP1_60 L613_LATA1_0 (EA ITT Y) $
 .  . TABLE TRKAIN
 .  . AUTO_OHDLOOPIC ENAUTO_OHD
TABLE CUSTSTN
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE LINEATTR
601 IBN NONE NT 0 0 NILSFC 0 NIL NIL 00 613_EAP1_60 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_EAP1_60 FR01 613 EAP1 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE STDPRTCT
EAP1 ( 1) ( 0) 3
 . 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
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
```

Figure 127 Sample TRAVER output for OFFHKDEL (example 6) (Continued)

```
 . SUBTABLE HNPACODE
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 4444 D BLDN
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE TMTCNTL
TITRKGRP ( 109)
 . SUBTABLE TREAT
 . BLDN Y S T120
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 621 623
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
KEY NOT FOUND
TABLE LATAXLA
TUPLE NOT FOUND
ASSUMED TO BE DEFAULT INTRALATA, INTRASTATE, STD
TABLE TRIGGRP
ENAUTO_OHD INFOCOL
 . OFFHKDEL ( CT VBINFO) ( ESC )$ ENAUTO
Trigger AIN OFFHKDEL is applicable to individual IBN trunk.
Trigger AIN OFFHKDEL: Trigger is active.
   (Use AINCI CHANGESTATE command to alter activation state.)
 .  . TABLE TRIGESC
 .  . TUPLE NOT FOUND
 .  . TABLE TRIGINFO
 .  . ENAUTO EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137224351 6137224351 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
```

Figure 127 Sample TRAVER output for OFFHKDEL (example 6) (Continued)

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


AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 128 Sample TRAVER output for OFFHKDEL (example 7)

```
>TRAVER TR PRACMR1AIC 6214444 AIN AINCHG 6137225601 B
TABLE TRKGRP
PRACMR1AIC PRA 0 NPDGP NCRT DSEQ N (ISDN 565) $ $
TABLE LTCALLS
ISDN 565 PUB XLAIBN 600 613_P621_0 L613_NILLA_4 COMKODAK 0 0 $
 .  . TABLE TRKAIN
 .  . PRACMR1AIC ENAUTO_OHD
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE LINEATTR
600 IBN NONE NT 0 0 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 621 632 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 4444 D BLDN
```

Figure 128 Sample TRAVER output for OFFHKDEL (example 7) (Continued)

```
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE TMTCNTL
TITRKGRP ( 109)
 . SUBTABLE TREAT
 . BLDN Y S T120
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 621 623
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
KEY NOT FOUND
TABLE TRIGGRP
ENAUTO_OHD INFOCOL
 . OFFHKDEL ( CT VBINFO) ( ESC )$ ENAUTO
Trigger AIN OFFHKDEL is applicable to individual IBN trunk.
Trigger AIN OFFHKDEL: Trigger is active.
   (Use AINCI CHANGESTATE command to alter activation state.)
 .  . TABLE TRIGESC
 .  . TUPLE NOT FOUND
 .  . TABLE TRIGINFO
 .  . ENAUTO EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137225601 6137225601 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 129 Sample TRAVER output (example 8)

```
>traver l 9735955 35951 b
TABLE IBNLINES
HOST 00 0 03 01 0 DT STN IBN 9735955 MDC916 0 0 916 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
HOST 00 0 03 01 0 AIN AIN MDCGRP
TABLE CUSTSTN
MDC916 AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
MDC916 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
MDC916 PXDK 916XDK CUSTFEAT 0 KDK
TABLE DIGCOL
KDK 3 COL L 1
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME 916XDK
916XDK 35 EXTN N Y 916 973 5 $ $
TABLE TOFCNAME
916 973 (NONNATIVE ) $
TABLE DNINV
916 973 5951 L HOST 00 0 09 03
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE TRIGGRP
MDCGRP INFOCOL
 . OFFHKDEL ( ESC ) (ESCMDC )$ JAZZINFO
Trigger AIN OFFHKDEL is applicable to individual IBN line.
Trigger AIN OFFHKDEL: Trigger is active.
   (Use AINCI CHANGESTATE command to alter activation state.)
AIN Info Collected TDP: trigger criteria not met.
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
TABLE TRIGGRP
OFCTRIGGRP_ALL INFOANAL
 . PODP ( DG PODPDIG)$ NIL
```

Figure 129 Sample TRAVER output (example 8) (Continued)

```
Trigger AIN PODP is applicable to office.
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
AIN Info Analyzed TDP: trigger criteria not met.
AIN Term Attempt TDP: no subscribed trigger.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 LINE                  9169735951         ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

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

Figure 130 Sample TRAVER output for IBN trunk (example 9)

```
>traver tr isupibntiic 14026 b
TABLE TRKGRP
ISUPIBNTIIC IBNTI 0 ELO NCRT COMKODAK 0 0 N ANSDISC 0 Y N N N N N N 0 0 N N
N N
    N $ NATL $
 .  . TABLE TRKAIN
 .  . ISUPIBNTIIC MDCGRP
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 1 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 140 CUTTD OGDP Y Y
TABLE TRIGGRP
MDCGRP INFOCOL
 . OFFHKDEL ( ESC ) (ESCMDC )$ JAZZINFO
Trigger AIN OFFHKDEL is applicable to individual IBN trunk.
Trigger AIN OFFHKDEL: Trigger is active.
   (Use AINCI CHANGESTATE command to alter activation state.)
 .  . TABLE TRIGESC
```

Figure 130 Sample TRAVER output for IBN trunk (example 9) (Continued)

```
 .  . TUPLE NOT FOUND
AIN Info Collected TDP: trigger criteria not met.
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
TABLE TRIGGRP
OFCTRIGGRP_ALL INFOANAL
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
AIN Info Analyzed TDP: trigger criteria not met.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 OGDP                  26                 ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 T120

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

Figure 131 Sample TRAVER output of OFFHKDEL (example 10)

```
>TRAVER L 7224012 96216508 B
TABLE IBNLINES
HOST 00 0 03 03 0 DT STN IBN 7224012 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
HOST 00 0 03 03 0 AIN AIN MDCGRP
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
```

Figure 131 Sample TRAVER output of OFFHKDEL (example 10) (Continued)

```
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 621 632 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 6508 L HOST 00 0 06 12
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 621 623
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
KEY NOT FOUND
```

Figure 131 Sample TRAVER output of OFFHKDEL (example 10) (Continued)

```
TABLE TRIGGRP
MDCGRP INFOCOL
 . OFFHKDEL ( ESC ) (ESCMDC )$ JAZZINFO
Trigger AIN OFFHKDEL is applicable to individual IBN line.
Trigger AIN OFFHKDEL: Trigger is active.
   (Use AINCI CHANGESTATE command to alter activation state.)
 .  . TABLE TRIGESC
 .  . TUPLE NOT FOUND
 .  . TABLE TRIGINFO
 .  . JAZZINFO EVENT TCAP R01 SS7 AINJAZZ DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 6137224012 6137224012 SSNONLY (AINTEST) $
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

The following ten TRAVERS represent a repeat of the previous ten examples (generated through the trigger group provisioning interface). Figure 132 through Figure 141 on page 635 were generated using the trigger item provisioning interface.

Figure 132 Sample TRAVER output for OFFHKDEL (example 1)

```
>TRAVER L 6136216508 2132512000 B
TABLE LINEATTR
0 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
```

Figure 132 Sample TRAVER output for OFFHKDEL (example 1) (Continued)

```
TABLE LENFEAT
HOST 00 0 06 12 S AIN AIN TIID (3 OHD2 ON) $
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 213 250 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 213 216 HNPA 0
 . 251 255 LRTE 800
 . SUBTABLE RTEREF
 .  800 S D AIN_DUMMY_TRK
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL NP N DD UNDT
TABLE CLSVSCRC
KEY NOT FOUND
TABLE LATAXLA
TUPLE NOT FOUND
ASSUMED TO BE DEFAULT INTRALATA, INTRASTATE, STD
Checking AIN OFFHKDEL Trigger Items as OFFHKDEL is compatible with current
call
 .  . TABLE TRIGITM
 .  . 3 OHD2 OFFHKDEL (CT VBINFO) (ESCDIG OHDESC) $ ULK EVENT R02 SS7 AIN-
ROCK $
 .  .  . TABLE TIESCDIG
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE LENFEAT
```

Figure 132 Sample TRAVER output for OFFHKDEL (example 1) (Continued)

```
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6136216508 6136216508 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++
```

Figure 133 Sample TRAVER output for OFFHKDEL (example 2) (ESC)

```
>TRAVER L 6136216508 911 B
TABLE LINEATTR
0 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
HOST 00 0 06 12 S AIN AIN TIID (3 OHD2 ON) $
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 911 911 T OA 0 OFRT 102 3 3 NONE
 .  . TABLE OFRT
 .  .  102 N D EMGY 0 N Y
 .  .      N D INBOPTR 3 N Y
 .  . EXIT TABLE OFRT
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
```

Figure 133 Sample TRAVER output for OFFHKDEL (example 2) (ESC) (Continued)

```
TABLE LATAXLA
TUPLE NOT FOUND
ASSUMED TO BE DEFAULT INTRALATA, INTRASTATE, STD
Checking AIN OFFHKDEL Trigger Items as OFFHKDEL is compatible with current
call
 .  . TABLE TRIGITM
 .  . 3 OHD2 OFFHKDEL (CT VBINFO) (ESCDIG OHDESC) $ ULK EVENT R02 SS7 AIN-
ROCK $
 .  .  . TABLE TIESCDIG
 .  .  . OHDESC 911
Not triggering due to criteria: ESCDIG
AIN Info Collected TDP: trigger criteria not met.
Checking AIN SDS Trigger Items as SDS is compatible with current call
Checking AIN N11 Trigger Items as N11 is compatible with current call
 .  . TABLE OFCTIID
 .  . 4 N911 ON
 .  . TABLE TRIGITM
 .  . 4 N911 N11 (DG 911) $ ULK EVENT R01 SS7 AINJAZZ $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 9110000000 9110000000 SSNONLY (AINTEST) $
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 134 Sample TRAVER output for OFFHKDEL (example 3)

```
>TRAVER L 6137226122 92132512000 B
TABLE IBNLINES
HOST 00 0 06 10 0 DT STN IBN 7226122 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
HOST 00 0 06 10 0 AIN AIN TIID (3 OHD2 ON) $
TABLE CUSTSTN
COMKODAK AIN AIN TIID
```

Figure 134 Sample TRAVER output for OFFHKDEL (example 3) (Continued)

```
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 213 250 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 213 216 HNPA 0
 . 251 255 LRTE 800
 . SUBTABLE RTEREF
 .  800 S D AIN_DUMMY_TRK
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
```

Figure 134 Sample TRAVER output for OFFHKDEL (example 3) (Continued)

```
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL NP N DD UNDT
TABLE CLSVSCRC
KEY NOT FOUND
Checking AIN OFFHKDEL Trigger Items as OFFHKDEL is compatible with current
call
 .  . TABLE TRIGITM
 .  . 3 OHD2 OFFHKDEL (CT VBINFO) (ESCDIG OHDESC) $ ULK EVENT R02 SS7 AIN-
ROCK $
 .  .  . TABLE TIESCDIG
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137226122 6137226122 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 135 Sample TRAVER output for OFFHKDEL (example 4)

```
>TRAVER TR ISUPIBNIC 25028 AIN AINCHG 6137232732 B
TABLE TRKGRP
ISUPIBNIC IBNTI 0 ELO NCRT COMKODAK 0 0 6137224111 ANSDISC 0 Y N N N N N N
0 0 N
    N N N Y FGD Y N $ NATL $
 .  . TABLE TRKAIN
 .  . ISUPIBNIC TIID (3 OHD2 ON) $
TABLE CUSTSTN
COMKODAK AIN AIN TIID
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
```

Figure 135 Sample TRAVER output for OFFHKDEL (example 4) (Continued)

```
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 2 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 25 EXTN N N 613 722 5 $ $
TABLE TOFCNAME
613 722 $
TABLE DNINV
613 722 5028 D BLDN
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE TMTCNTL
TITRKGRP ( 109)
 . SUBTABLE TREAT
 . BLDN Y S T120
Checking AIN OFFHKDEL Trigger Items as OFFHKDEL is compatible with current
call
 .  . TABLE TRIGITM
 .  . 3 OHD2 OFFHKDEL (CT VBINFO) (ESCDIG OHDESC) $ ULK EVENT R02 SS7 AIN-
ROCK $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137232732 6137232732 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 136 Sample TRAVER output for OFFHKDEL (example 5)

```
>TRAVER TR ISUPIBN2W 25028 AIN AINCHG 6137239834 B
```

Figure 136 Sample TRAVER output for OFFHKDEL (example 5) (Continued)

```
TABLE TRKGRP
ISUPIBN2W IBNT2 0 ELO NCRT COMKODAK 0 MIDL 0 N ANSDISC 0 Y N N N N N Y 0 0
N 0 0
    0 0 N N N N N N N N N NATL $
 .  . TABLE TRKAIN
 .  . ISUPIBN2W TIID (3 OHD2 ON) $
TABLE CUSTSTN
COMKODAK AIN AIN TIID
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 2 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 25 EXTN N N 613 722 5 $ $
TABLE TOFCNAME
613 722 $
TABLE DNINV
613 722 5028 D BLDN
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE TMTCNTL
TITRKGRP ( 109)
 . SUBTABLE TREAT
 . BLDN Y S T120
Checking AIN OFFHKDEL Trigger Items as OFFHKDEL is compatible with current
call
 .  . TABLE TRIGITM
 .  . 3 OHD2 OFFHKDEL (CT VBINFO) (ESCDIG OHDESC) $ ULK EVENT R02 SS7 AIN-
ROCK $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137239834 6137239834 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
```

Figure 136 Sample TRAVER output for OFFHKDEL (example 5) (Continued)

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


AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 137 Sample TRAVER output for OFFHKDEL (example 6)

```
>TRAVER TR AUTO_OHDLOOPIC 6214444 AIN AINCHG 6137224351 B
TABLE TRKGRP
AUTO_OHDLOOPIC IBNT2 0 NPDGP NCRT COMKODAK 2 ASEQ 0 6136216666 ANSDISC 0 Y
N N N
    N N Y 0 0 N 0 0 0 0 N N N N N N N N N NATL (LTID ISDN 952) $
TABLE LTCALLS
ISDN 952 PUB XLALEC 601 613_EAP1_60 L613_LATA1_0 (EA ITT Y) $
 .  . TABLE TRKAIN
 .  . AUTO_OHDLOOPIC TIID (3 OHD2 ON) $
TABLE CUSTSTN
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
TABLE LINEATTR
601 IBN NONE NT 0 0 NILSFC 0 NIL NIL 00 613_EAP1_60 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_EAP1_60 FR01 613 EAP1 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE STDPRTCT
EAP1 ( 1) ( 0) 3
 . 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
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
```

Figure 137 Sample TRAVER output for OFFHKDEL (example 6) (Continued)

```
TABLE DNINV
613 621 4444 D BLDN
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE TMTCNTL
TITRKGRP ( 109)
 . SUBTABLE TREAT
 . BLDN Y S T120
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 621 623
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
KEY NOT FOUND
Checking AIN OFFHKDEL Trigger Items as OFFHKDEL is compatible with current
call
 .  . TABLE TRIGITM
 .  . 3 OHD2 OFFHKDEL (CT VBINFO) (ESCDIG OHDESC) $ ULK EVENT R02 SS7 AIN-
ROCK $
 .  .  . TABLE TIESCDIG
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137224351 6137224351 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 138 Sample TRAVER output for OFFHKDEL (example 7)

```
>TRAVER TR PRACMR1AIC 6214444 AIN AINCHG 6137225601 B
TABLE TRKGRP
PRACMR1AIC PRA 0 NPDGP NCRT DSEQ N (ISDN 565) $ $
TABLE LTCALLS
ISDN 565 PUB XLAIBN 600 613_P621_0 L613_NILLA_4 COMKODAK 0 0 $
 .  . TABLE TRKAIN
 .  . PRACMR1AIC TIID (3 OHD2 ON) $
TABLE CUSTSTN
COMKODAK AIN AIN TIID
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
TABLE LINEATTR
600 IBN NONE NT 0 0 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 621 632 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 4444 D BLDN
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE TMTCNTL
TITRKGRP ( 109)
 . SUBTABLE TREAT
 . BLDN Y S T120
LNP Info: Called DN is not resident.
```

Figure 138 Sample TRAVER output for OFFHKDEL (example 7) (Continued)

```
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 621 623
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
KEY NOT FOUND
Checking AIN OFFHKDEL Trigger Items as OFFHKDEL is compatible with current
call
 .  . TABLE TRIGITM
 .  . 3 OHD2 OFFHKDEL (CT VBINFO) (ESCDIG OHDESC) $ ULK EVENT R02 SS7 AIN-
ROCK $
 .  .  . TABLE TIESCDIG
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137225601 6137225601 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 139 Sample TRAVER output (example 8)

```
>TRAVER L 9735955 35951 B
TABLE IBNLINES
HOST 00 0 03 01 0 DT STN IBN 9735955 MDC916 0 0 916 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
HOST 00 0 03 01 0 AIN AIN TIID (3 OHD3 ON) $
TABLE CUSTSTN
MDC916 AIN AIN TIID
TABLE OFCVAR
```

Figure 139 Sample TRAVER output (example 8) (Continued)

```
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
MDC916 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
MDC916 PXDK 916XDK CUSTFEAT 0 KDK
TABLE DIGCOL
KDK 3 COL L 1
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME 916XDK
916XDK 35 EXTN N Y 916 973 5 $ $
TABLE TOFCNAME
916 973 (NONNATIVE ) $
TABLE DNINV
916 973 5951 L HOST 00 0 09 03
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
Checking AIN OFFHKDEL Trigger Items as OFFHKDEL is compatible with current
call
 .  . TABLE TRIGITM
 .  . 3 OHD3 OFFHKDEL (ESCDIG OHDESC) (ESCMDC ) $ ULK EVENT R01 SS7 AINJAZZ
$
Not triggering due to criteria: ESCMDC
AIN Info Collected TDP: trigger criteria not met.
Checking AIN CDPCODE Trigger Items as CDPCODE is compatible with current
call
Checking AIN SDS Trigger Items as SDS is compatible with current call
Checking AIN N11 Trigger Items as N11 is compatible with current call
AIN Info Analyzed TDP: trigger criteria not met.
AIN Term Attempt TDP: no subscribed trigger.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 LINE                  9169735951         ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

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

Figure 140 Sample TRAVER output for IBN trunk (example 9)

```
>TRAVER TR ISUPIBNTIIC 14026 B
TABLE TRKGRP
ISUPIBNTIIC IBNTI 0 ELO NCRT COMKODAK 0 0 N ANSDISC 0 Y N N N N N N 0 0 N N
N N
    N $ NATL $
 .  . TABLE TRKAIN
 .  . ISUPIBNTIIC TIID (3 OHD3 ON) $
TABLE CUSTSTN
COMKODAK AIN AIN TIID
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 1 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 140 CUTTD OGDP Y Y
Checking AIN OFFHKDEL Trigger Items as OFFHKDEL is compatible with current
call
 .  . TABLE TRIGITM
 .  . 3 OHD3 OFFHKDEL (ESCDIG OHDESC) (ESCMDC ) $ ULK EVENT R01 SS7 AINJAZZ
$
Not triggering due to criteria: ESCMDC
AIN Info Collected TDP: trigger criteria not met.
Checking AIN CDPCODE Trigger Items as CDPCODE is compatible with current
call
Checking AIN SDS Trigger Items as SDS is compatible with current call
Checking AIN N11 Trigger Items as N11 is compatible with current call
AIN Info Analyzed TDP: trigger criteria not met.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 OGDP                  26                 ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 T120

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

Figure 141 Sample TRAVER output of OFFHKDEL (example 10)

```
>TRAVER L 7224012 96216508 B
```

Figure 141 Sample TRAVER output of OFFHKDEL (example 10) (Continued)

```
TABLE IBNLINES
HOST 00 0 03 03 0 DT STN IBN 7224012 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
HOST 00 0 03 03 0 AIN AIN TIID (3 OHD3 ON) $
TABLE CUSTSTN
COMKODAK AIN AIN TIID
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 621 632 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 621 621 DN 613 621
```

Figure 141 Sample TRAVER output of OFFHKDEL (example 10) (Continued)

```
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 6508 L HOST 00 0 06 12
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 621 623
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
KEY NOT FOUND
Checking AIN OFFHKDEL Trigger Items as OFFHKDEL is compatible with current
call
 .  . TABLE TRIGITM
 .  . 3 OHD3 OFFHKDEL (ESCDIG OHDESC) (ESCMDC ) $ ULK EVENT R01 SS7 AINJAZZ
$
 .  .  . TABLE TIESCDIG
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 6137224012 6137224012 SSNONLY (AINTEST) $
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

19.4 Interactions

The Off-Hook_Delay Intercom for Centrex feature has the following general interactions within AIN and with the DMS-100 switch:

Table 307 Interactions for the Off-Hook_Delay intercom for Centrex feature

Interaction	Reference
automatic call back (ACB)	See Section 23.7.2 on page 880
automatic recall (AR)	See Section 23.7.3 on page 887
last number redial (LNR)	See Section 1.4 on page 52
group intercom (GIC)	See Section 1.2.1 on page 43
ICM (MBS intercom)	See Section 1.2.3 on page 48

20 Channel_Setup_PRI trigger

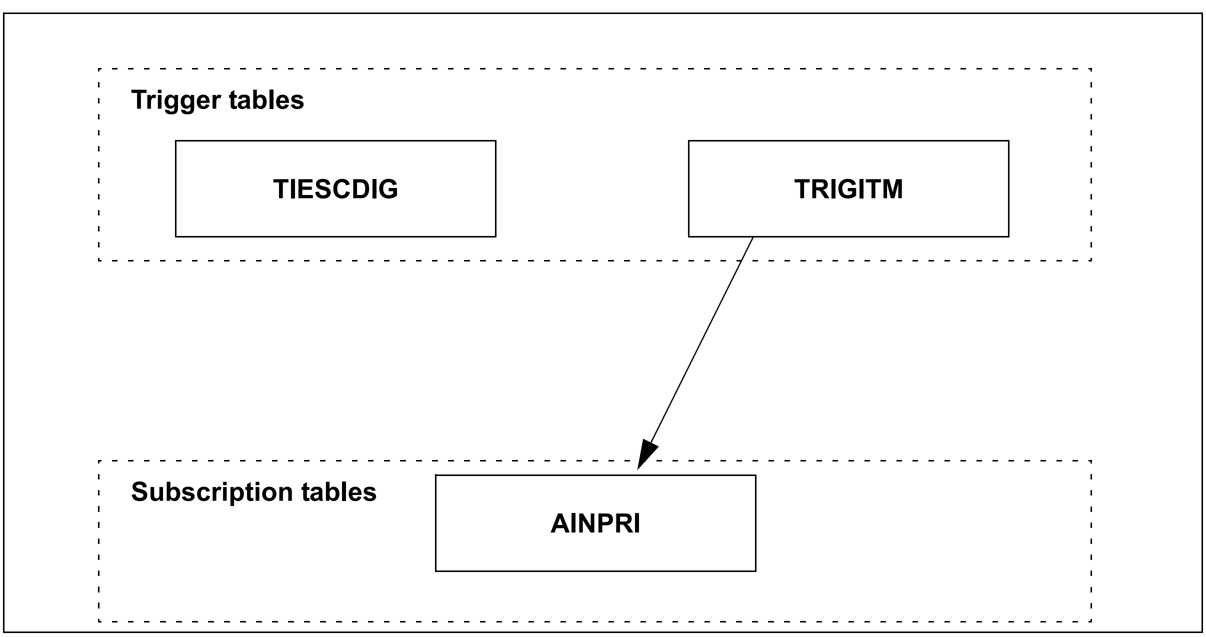
ATTENTION
Trigger PRIB can only be provisioned using the trigger item provisioning interface.

20.1 General

Trigger Channel_Setup_PRI (PRIB) occurs at the Info_Collected (INFOCOL) TDP, in the originating basic call model (BCM). A call triggers when it encounters a PRI-B channel that subscribes to trigger PRIB.

Figure 142 shows the datafilling hierarchy for trigger PRIB.

Figure 142 Datafilling hierarchy for trigger PRIB



20.2 Datafilling steps

Trigger item actions for trigger PRIB must be datafilled as described in the following sections.

20.2.1 Step 1: Datafilling table TIESCDIG

Table TIESCDIG specifies the digits required to escape trigger PRIB. The key consists of two parts: ESCGRP and ESCDIGS. ESCGRP specifies the name of the group of escape codes. The steps required to escape trigger PRIB are as follows:

1. At the ESCGRP prompt, enter a name for the escape code (for example, CRIT1.
2. At the ESCDIGS prompt, enter the trigger escape digits (for example, 911).

20.2.2 Step 2: Datafilling table TRIGITM

Use the following steps:

1. In response to the TDP prompt, enter 3, the numeric code for the Info_Collected TDP.
2. In response to the TINAME prompt, enter the trigger item identifier (for example, enter PRIBTRG1).
3. In response to the TRIGGER prompt, enter PRIB.
4. In response to the CRITERIA prompt, only the ESCDIG criterion can be specified. When the criteria entry is complete, enter $ at the CRITERIA prompt.

   The ESCDIG criterion is optional. The trigger is not encountered by the dialed digits without the matching prefix as specified in the escape code digit string in table TIESCDIG. At the ESCGROUP prompt, enter a valid escape name from table TIESCDIG.
5. In response to the STATE prompt, enter LK or ULK. LK locks or disables a trigger item, ULK unlocks or enables a trigger item.
6. In response to the ACTION prompt, enter EVENT. ESCAPE is not a valid action for this trigger.
7. In response to the service logic host route (SLHR) subfield prompt, enter the following for trigger PRIB
   a. In response to the MSGSET prompt, enter R02.
   b. In response to the TRANSPRT prompt, enter SS7.
   c. In response to the GTT prompt, enter a global title translation (GTT) variable, for example AINJAZZ.
8. In response to the OPTION prompt, enter $. Options are not valid for this trigger.

20.2.3 Example of table TRIGITM

Table 308 shows a sample tuple for trigger PRIB from table TRIGITM.

Table 308 Sample Tuple in table TRIGITM

TIID		Trigger	State	Action	Criteria	MsgSet	Transport	GTT	Options
TDP	Name								
3	PRIBTRIG1	PRIB	$	EVENT	(ESCDIG EDIG)$	R02	SS7	AINJAZZ	$

20.2.4 Step 3: Trigger PRIB subscription

The subscription to trigger PRIB on a PRI B-channel is accomplished through table control. Using table AINPRI, trigger PRIB can be assigned to PRI B-channels belonging to the trunk group types IBNT2 and PRA, both using North American PRI variants NTNAPRI, NIPRI, U449PRI and U459PRI.

Table AINPRI administers the assignments of PRIB trigger items to a range of PRI B-channels. The tuples in AINPRI consists of the following data fields:

1. PRIMEMS, a four-part key that is formatted as
   - LTGRP (part 1) — logical terminal group
   - LTNUM (part 2) — logical terminal number
   - FROMCHNL — external trunk name
   - TOCHNL — external trunk name
2. TIIDLIST, refers to a trigger item provisioned in table TRIGITM and consists of three parts
   - TDP (part 1) - standard 2-digit number representing a trigger detection point (TDP)
   - TINAME (part 2) - 8-character alphanumeric string
   - activation state code STATE, with one of these values
     - — ON — indicates that the assignment is enabled
     - — OFF — indicates that the assignment is disabled

When an assignment to a trigger item is disabled (that is, the State field is set to OFF), the corresponding trigger item fails to trigger even when all of its criteria is met at run-time. Criteria checking resumes with another trigger item assignment when one exists.

20.2.4.1 Trigger definition and subscription tables

Table 309 illustrates the trigger definition and subscription tables for trigger PRIB.

Table 309 Trigger definition and subscription tables for trigger PRIB.

TDP	Trigger types	Criteria	Definition tables	Subscription basis	Subscription tables	Option	SERVORD
INFOCOL	PRIB	ESCDIG	TRIGITM	B-channel	AINPRI	N/A	NO

20.2.5 Operational Details

The user is blocked from subscribing to trigger PRIB when any of the following verifications fail:

- The LTGRP and LTNUM of the logical terminal specified must already be datafilled in table LTMAP.
- The logical terminal class of the logical terminal must be PRA in table LTDEF.
- The FROMCHNL and TOCHNL of the PRI B-channels specified must already be datafilled in table TRKMEM.
- The PRI trunk group specified must already be datafilled in table TRKSGRP without enabling B-channel negotiation.
- The TIID must be datafilled in table TRIGITM.

When any of these verifications fail, an error message is displayed.

20.2.6 Table dependency

The datafill sequence of the following tables are affected by table AINPRI: LTMAP, TRKMEM, TRKSGRP, and TRIGITM

20.2.6.1 Table LTMAP

A tuple in table LTMAP cannot be deleted when it references a tuple in table AINPRI. The tuple must be manually deleted from table AINPRI first and then the tuple in table LTMAP can be deleted.

20.2.6.2 Table TRKMEM

A tuple in table TRKMEM cannot be deleted when it references a tuple in table AINPRI. The tuple must be manually deleted from table AINPRI first and then the tuple in table TRKMEM can be deleted.

20.2.6.3 Table TRKSGRP

The B-channel negotiation field of a tuple in table TRKSGRP cannot be enabled when the tuple references a tuple in table AINPRI. The tuple must be manually deleted from table AINPRI first and then the tuple in table TRKSGRP can be changed.

20.2.6.4 Table TRIGITM

A tuple in table TRIGITM cannot be deleted when the trigger item is subscribed by a PRI B-channel in table AINPRI. The tuple must be manually deleted from table AINPRI first and then the tuple in table TRIGITM can be deleted.

20.2.7 Table AINPRI example

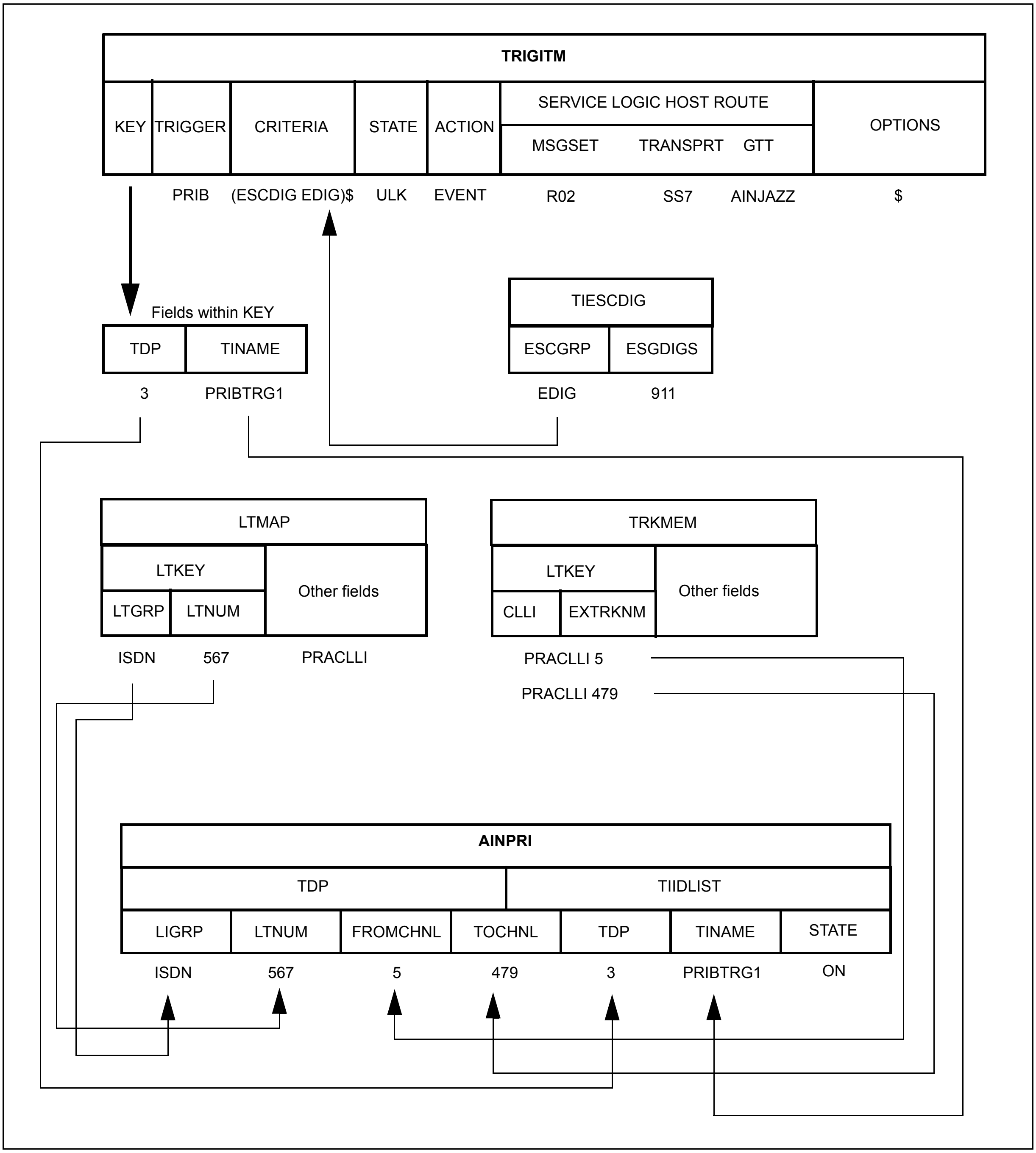
Table 310 demonstrates a sample tuple from table AINPRI.

Table 310 Sample tuple in table AINPRI

PRIMEM				TIIDLIST		
LTGRP	**LTNUM**	**FROMCHNL**	**TOCHNL**	**TDP**	**NAME**	**TRIGACT**
ISDN	567	1	5	3	PRIBTRG1	ON

Figure 143 on page 644 illustrates the dependencies between the datafill tables for trigger PRIB.

Figure 143 Sample datafill for trigger PRIB



20.3 TRAVER and PRIB

The method for subscribing to AIN on a PRI B-channel using table AINPRI has an impact on TRAVER output. The MMI shows the corresponding entry in table AINPRI when a TRAVER using the TR selector is performed on the PRI B-channel that subscribes to trigger PRIB. During an Info_collected TDP, the PRIB trigger item in table TRIGITM is shown. It also indicates whether the PRIB trigger criteria is met or not.

WARNING Possibility of malfunction

> **CAUTION**
> In order for TRAVER to work with trigger PRIB, the TRKMEM option must be in the TRAVER line command, otherwise TRAVER does not show trigger PRIB.

20.3.1 Parameter definitions

Optional parameter TRKMEM uses the external trunk name of a trunk datafilled in table TRKMEM to identify the B-channel of a PRI interface.

Table 311 TRKMEM parameter

PARAMETER	VALUE	DEFINITION
TRKMEM	0 TO 9999	OPTIONAL

20.3.2 TRAVER responses

Figure 144 illustrates a sample TRAVER performed on a PRI B-channel (PRACMR1AOG 5) that has subscribed to trigger PRIB. The B-channel is identified by the optional parameter TRKMEM 5. The AIN option is shown in table AINPRI with the subscribed trigger item, PRIB_SIM. During an Info_Collected TDP, the trigger item in table TRIGITM is shown. It further indicates that trigger PRIB is applicable to the B-channel and trigger criteria is not met at the INFOCOL TDP. TRAVER proceeds normally.

Figure 144 TRAVER for escape code digit string in table TIESCDIG

```
>TRAVER TR PRACMR1AOG TRKMEM 5 411 B
TABLE TRKGRP
PRACMR1AOG PRA 0 NPDGP NCRT ASEQ N (ISDN 564) $ $
TABLE LTCALLS
ISDN 564 PUB XLAIBN 600 613_P621_0 L613_NILLA_4 COMKODAK 0 0 $
 .   . TABLE AINPRI
 .   . ISDN 564 1 6 (3 PRIB_SIM ON) $
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE LINEATTR
600 IBN NONE NT 0 0 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
```

Figure 144 TRAVER for escape code digit string in table TIESCDIG (Continued)

```
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 411 411 T OA 0 OFRT 44 3 3 NONE
 .  . TABLE OFRT
 .  .   44 N D DAC 3 N Y
 .  . EXIT TABLE OFRT
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
Checking AIN PRIB Trigger Items as PRIB is compatible with current call
 .  . TABLE TRIGITM
 .  . 3 PRIB_SIM PRIB (ESCDIG EDIG) $ ULK EVENT R02 SS7 AINPOP $
 .  .  . TABLE TIESCDIG
 .  .  . EDIG 411
Not triggering due to criteria: ESCDIG
AIN Info Collected TDP: trigger criteria not met.
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
TABLE TRIGGRP
OFCTRIGGRP_ALL INFOANAL
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 . LNP ( DG LNPDIG) ( ESCEA ) ( ESCOP ) ( ESCDN )$ NIL
Trigger AIN LNP is applicable to office.
AIN Info Analyzed TDP: trigger criteria not met.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 DAC                  NN                  ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 T120

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

Figure 145 provides a sample TRAVER performed on a PRI B-Channel (PRACMR1AOG 5) that has subscribed to trigger PRIB. The B-channel is identified by the optional parameter TRKMEM 1. The AIN option is shown in table AINPRI with the subscribed trigger item name PRIB_SIM. During an Info_Collected TDP, the trigger item in table TRIGITM is shown. It also indicates that trigger PRIB is applicable to the B-channel and trigger criteria is met at the INFOCOL TDP.

Figure 145 TRAVER for digit string that is not an escape code in table TRIGESC

```
>TRAVER TR PRACMR1AOG TRKMEM 1 6211600 B
TABLE TRKGRP
PRACMR1AOG PRA 0 NPDGP NCRT ASEQ N (ISDN 564) $ $
TABLE LTCALLS
ISDN 564 PUB XLAIBN 600 613_P621_0 L613_NILLA_4 COMKODAK 0 0 $
 .  . TABLE AINPRI
 .  . ISDN 564 1 6 (3 PRIB_SIM ON) $
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE LINEATTR
600 IBN NONE NT 0 0 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 621 632 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 306) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 1600 L HOST 00 1 09 05
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 15) OPTL N N
 . SUBTABLE LCASCR
 . 621 623
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
KEY NOT FOUND
```

Figure 145 TRAVER for digit string that is not an escape code in table TRIGESC (Continued)

```
Checking AIN PRIB Trigger Items as PRIB is compatible with current call
 .  . TABLE TRIGITM
 .  . 3 PRIB_SIM PRIB (ESCDIG EDIG) $ ULK EVENT R02 SS7 AINPOP $
 .  .  . TABLE TIESCDIG
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTTYPE
 .  .  . AINPOP ANSI7 15 $
WARNING: AINCHG option is not specified for trunk on command line and
GTV could not be determined and defaults to 0.
 .  .  . TABLE C7GTT
 .  .  . AINPOP 0000000000 0000000000 PCSSN (SIMTOOL_RTESET SIMTOOL3 0) $ SSN
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 146 illustrates a sample TRAVER performed on a PRI B-channel (PRACMR1AOG 8) that has not subscribed to trigger PRIB. The B-channel is identified by the optional parameter TRKMEM 8. TRAVER proceeds normally.

Figure 146 TRAVER for PRI B-channel without a trigger PRIB subscription

```
>TRAVER TR PRACMR1AOG TRKMEM 8 6211600 B
TABLE TRKGRP
PRACMR1AOG PRA 0 NPDGP NCRT ASEQ N (ISDN 564) $ $
TABLE LTCALLS
ISDN 564 PUB XLAIBN 600 613_P621_0 L613_NILLA_4 COMKODAK 0 0 $
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE LINEATTR
600 IBN NONE NT 0 0 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 621 632 N NP 0 NA
 . SUBTABLE AMAPRT
```

Figure 146 TRAVER for PRI B-channel without a trigger PRIB subscription (Continued)

```
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 306) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 1600 L HOST 00 1 09 05
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 15) OPTL N N
 . SUBTABLE LCASCR
 . 621 623
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
KEY NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
TABLE FNPA7DIG
TUPLE NOT FOUND
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
TABLE TRIGGRP
OFCTRIGGRP_ALL INFOANAL
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 . LNP ( DG LNPDIG) ( ESCEA ) ( ESCOP ) ( ESCDN )$ NIL
Trigger AIN LNP is applicable to office.
AIN Info Analyzed TDP: trigger criteria not met.
AIN Term Attempt TDP: no subscribed trigger.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 LINE                  6136211600         ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 T120

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

20.4 Interactions

Trigger PRIB has general interactions within AIN and with the DMS-100 switch. See Chapter 22: “AIN/DMS-100 interactions (A and B)” on page 707 through Chapter 2: “AIN/DMS-100 interactions (S to Z)” on page 163.

21 Shared_Interoffice_Trunk trigger

ATTENTION
Trigger INTEROFF can be provisioned in two ways: either by using the trigger item or trigger group provisioning interface. A subscriber (office, customer group, or individual agent) can only subscribe to triggers defined by one provisioning interface, however, a call can encounter triggers provisioned in different provisioning interfaces at different subscription levels.

21.1 General

Trigger Shared_Interoffice_Trunk (INTEROFF) occurs at the Info_Collected (INFOCOL) TDP in the originating basic call model (BCM).

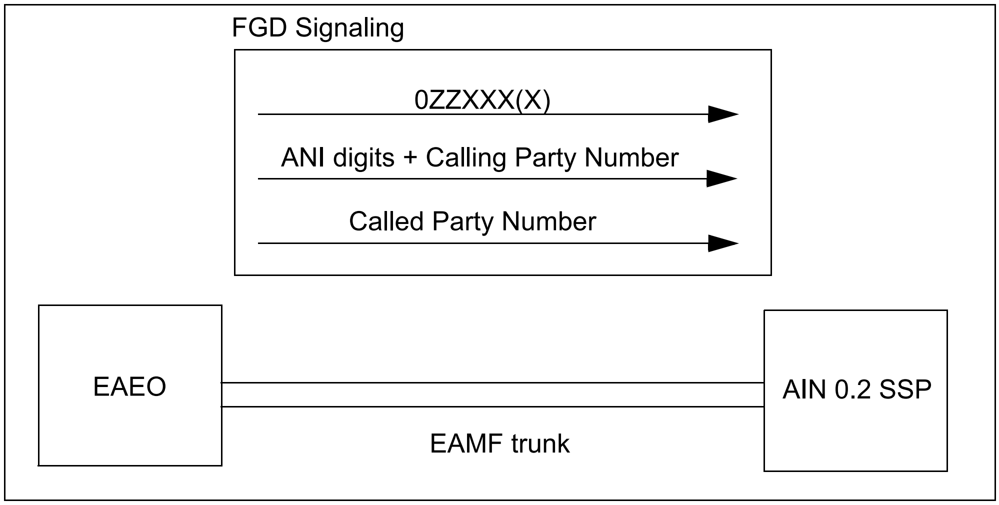
Calls routed to an inter-toll (IT) trunk from an equal access end office (EAEO) can encounter the INTEROFF trigger. IT trunks that carry EA traffic imply that the trunk must be equal access multi frequency (EAMF) or equal access SS7.

Figure 147 on page 652 illustrates the feature group D (FGD) signaling between an EAEO and an AIN Service Enablers SSP connected by an EAMF trunk. There are three stages of FGD signaling. The first stream of digits is 0ZZXXX(X), the second stream of digits, automatic number identification (ANI) digits, and the third stream of digits is the called party number (CPN).

> ***Note:*** 0ZZXXX(X) indicates that there can be a 3 or 4-digit carrier identification included in the first stage of outpulsing. Starting in BCS35, the DMS-100 switch supports a 4-digit carrier.

Figure 147 on page 652 illustrates FGD signaling between an EAEO and an AIN Service Enablers SSP, that are connected by an EAMF trunk.

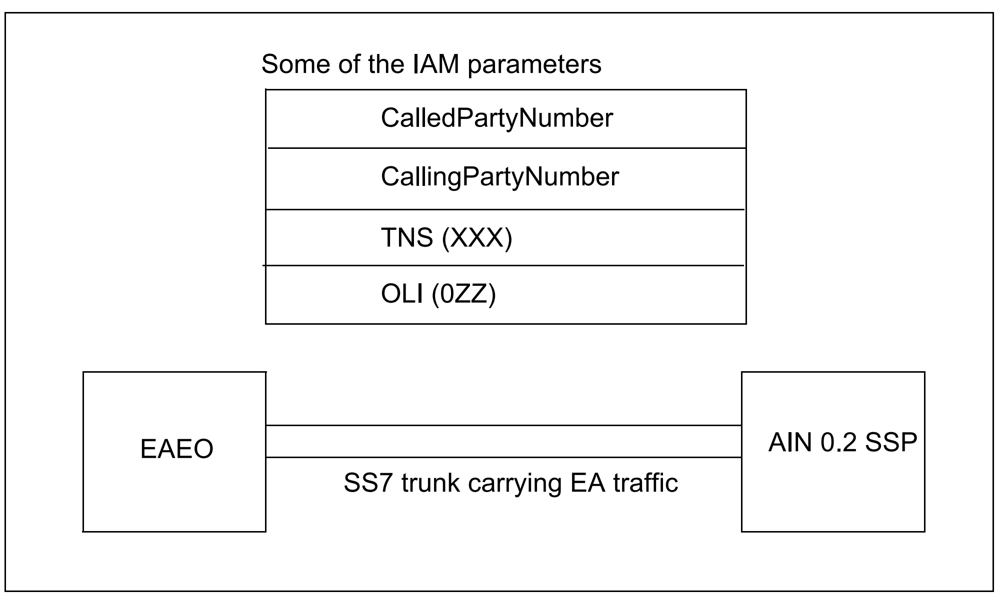
Figure 147 FGD signaling between an EAEO and an AIN Service Enablers SSP connected by an EAMF trunk



> ***Note:*** Alternate signaling would exist when the first stage contained 1NX+XXX+CCC, but this is not supported. This signaling applies to international calls (CCC is the pseudo-country code).

Figure 148 illustrates a number of parameters included in the initial address message (IAM) between an EAEO and an AIN Service Enablers SSP that is connected by an SS7 trunk that carries EA traffic.

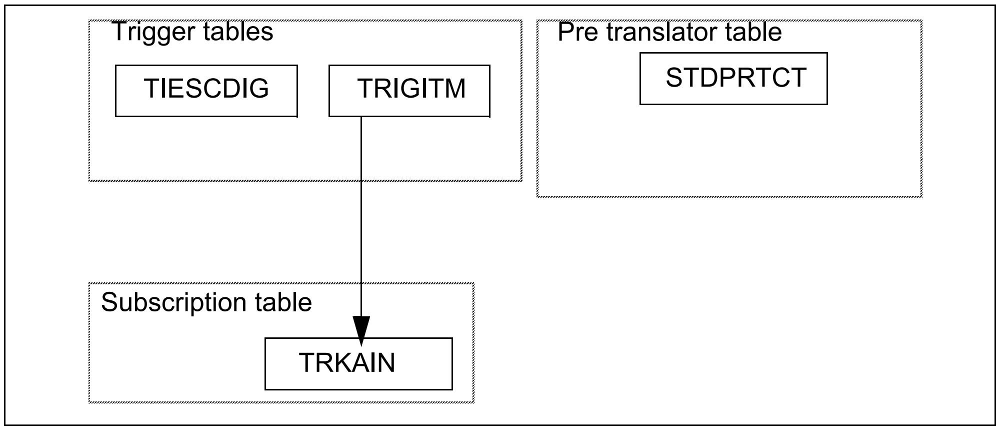
Figure 148 IAM between an EAEO and an AIN Service Enablers SSP connected by an SS7 trunk



21.2 Trigger item provisioning interface

Figure 149 illustrates the datafilling steps required by trigger INTEROFF. Figure 149 assumes that the trigger item provisioning interface for trigger INTEROFF is selected.

Figure 149 Datafill hierarchy for trigger INTEROFF



21.2.1 Step 1: Datafilling table TIESCDIG

Table TIESCDIG is used to specify digits required to escape the trigger. The key consists of two parts: ESCGRP and ESCDIGS. ESCGRP specifies the name of the group of escape codes. The following steps explain the procedure:

1. At the ESCGRP prompt, type a name for the escape code, such as CRIT1.
2. At the ESCDIGS prompt, type the digits to escape the trigger, such as 800621.

21.2.2 Step 2: Datafilling table TRIGITM

The INTEROFF trigger type is digit-based, and trigger item actions must be datafilled in table TRIGITM. This information indicates the action to be performed by the SSP when the criterion is met. The following steps indicate the required procedure to datafill table TRIGITM:

1. In response to the TDP prompt, enter 3. This is the numeric code for the Info_Collected TDP.
2. In response to the TINAME prompt, enter the trigger item identifier (for example, enter INTOFF1).
3. In response to the TRIGGER prompt, enter INTEROFF.
4. In response to the CRITERIA subfield prompts, enter any of the following for trigger INTEROFF. When all desired criteria have been entered, type $ at the CRITERIA prompt.
   - Digits (DG) criterion, this criterion is mandatory. In response to the DG prompt, enter the 0ZZXXX digits received over the trunk.

Triggering occurs when the DG criterion matches the 0ZZXXX digits received over the trunk.

- Call type (CT) criterion, this criterion is optional. At the CT prompt, enter VBINFO for voice or CMDATA for data. When the CT criterion is not specified, then both voice and data calls trigger when all other criteria is satisfied.

  Note: When the CT criterion is specified, enter it as the first criteria.

- Escape digits (ESCDIG) criterion, this criterion is optional. When specified, then the trigger is not encountered when the inpulsed digits (without the prefix digits) match any of the digit strings in the escape code list in table TIESCDIG. At the ESCGROUP prompt, enter an escape code from the list defined in table TIESCDIG.

5. In response to the STATE field, enter LK or ULK. LK locks (or disables) a trigger item, and ULK unlocks (or enables) a trigger item.
6. In response to the ACTION prompt, enter EVENT. ESCAPE is not valid for this trigger.
7. In response to the service logic host route (SLHR) subfield prompts, enter the following responses as appropriate
   a. In response to the MSGSET prompt, enter R02 or R01.
   b. In response to the TRANSPRT prompt, enter SS7.
   c. In response to the GTT prompt, enter a global title translation (GTT) variable (for example, AINJAZZ).
8. In response to the OPTION prompt, type $. No actions are valid for this trigger.

21.2.3 Step 3: Datafilling table STDPRTCT and its subtable STDPRT

Table STDPRTCT and its subtable STDPRT must be datafilled to indicate that AIN Service Enablers SSP processing is required based upon the 0ZZXXX digits received over the trunk facility.

For an Equal Access Multi Frequency (EAMF)trunking facility, the SSP uses the XXX to determine that SSP processing is required. The XXX must have a value of the office parameter SSP_NSC_CARRIER_ID which can be datafilled in table OFCENG. The 0ZZ is used by the SSP to identify the call as one that requires AIN Service Enablers processing. The exact value of the 0ZZ digits should be agreed upon by the equal access end office (EAEO) and the AIN SSP.

Note: When neither the E800 service package (NTX554) nor the private virtual network (PVN) package (BTX983) is in the office, parameter

SSP_NSC_CARRIER_ID does not exist. When this occurs, the XXX must be outpulsed as 110, or the XXXX digits must be outpulsed as 0110.

For SS7 trunking facilities carrying equal access (EA) traffic, the SSP uses the XXX information found in parameter transit network selection (TNS) to determine whether SSP processing is required. The XXX must have a value for parameter SSP_NSC_CARRIER_ID to indicate that SSP processing is required. The 0ZZ information found in parameter originating line information (OLI) is used by the SSP to identify the call as one that requires AIN Service Enablers processing.

When datafilling table STDPRTCT for either one of the above trunks, position on the pretranslator of the originating trunk. Then, go to subtable STDPRT. Specify the 0ZZXXX digits received over the trunk in field FROMDIGS and TODIGS. Also, specify SSP routing selector in field PRERTSE.

21.2.4 Step 4: Subscribing to trigger INTEROFF

For all subscription tables, the AINGRPID (trigger group name) is used as the selector to determine whether the trigger item provisioning model should be used. When a regular trigger group name is datafilled, the trigger group provisioning model is used. When the keyword TIID is datafilled, the trigger item provisioning model is used. Internally the subscription tables use a vector to store trigger item assignments. When the TIID selector is entered for the AINGRPID, a vector of trigger item assignments are prompted for. One trigger item assignment consists of the following data fields, entered at the TILIST prompt:

1. TDP, enter 3 to specify the Info_Collected TDP.
2. TINAME, 8 character alphanumeric string of a valid trigger items in table TRIGITM.
3. TRIGACT, trigger activation state (ON or OFF).

   Enter a $ when the trigger item assignments are complete.

Public facility trunk groups (that is, POTS trunk groups) can subscribe to this trigger in table TRKAIN. The subscription is done on a trunk-group basis. Among the POTS trunks, the inter-toll (IT) trunk groups are the only AIN-supported trunks that can subscribe and subsequently trigger at INTEROFF. And among the IT trunks, only the EAMF trunking facility or the SS7 trunking facilities that carry EA traffic are supported to trigger at INTEROFF.

Table 312 summarizes datafill requirements for the INTEROFF trigger type.

Table 312 Trigger definition and subscription tables for the INTEROFF trigger type

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Sub-scription tables	Option	SERVORD
INFOCOL	INTEROFF	CT	TRIGITM	Trunk group (POTS trunk group)	TRKAIN	AIN	No
		DG (M)					
		ESCDIG	TIESCDIG				

21.2.5 Sample INTEROFF datafill

Table 313 illustrates sample datafill for subscribing trigger INTEROFF. Table 314 on page 656 illustrates sample datafill for trigger INTEROFF.

Table 313 Table TRIGITM

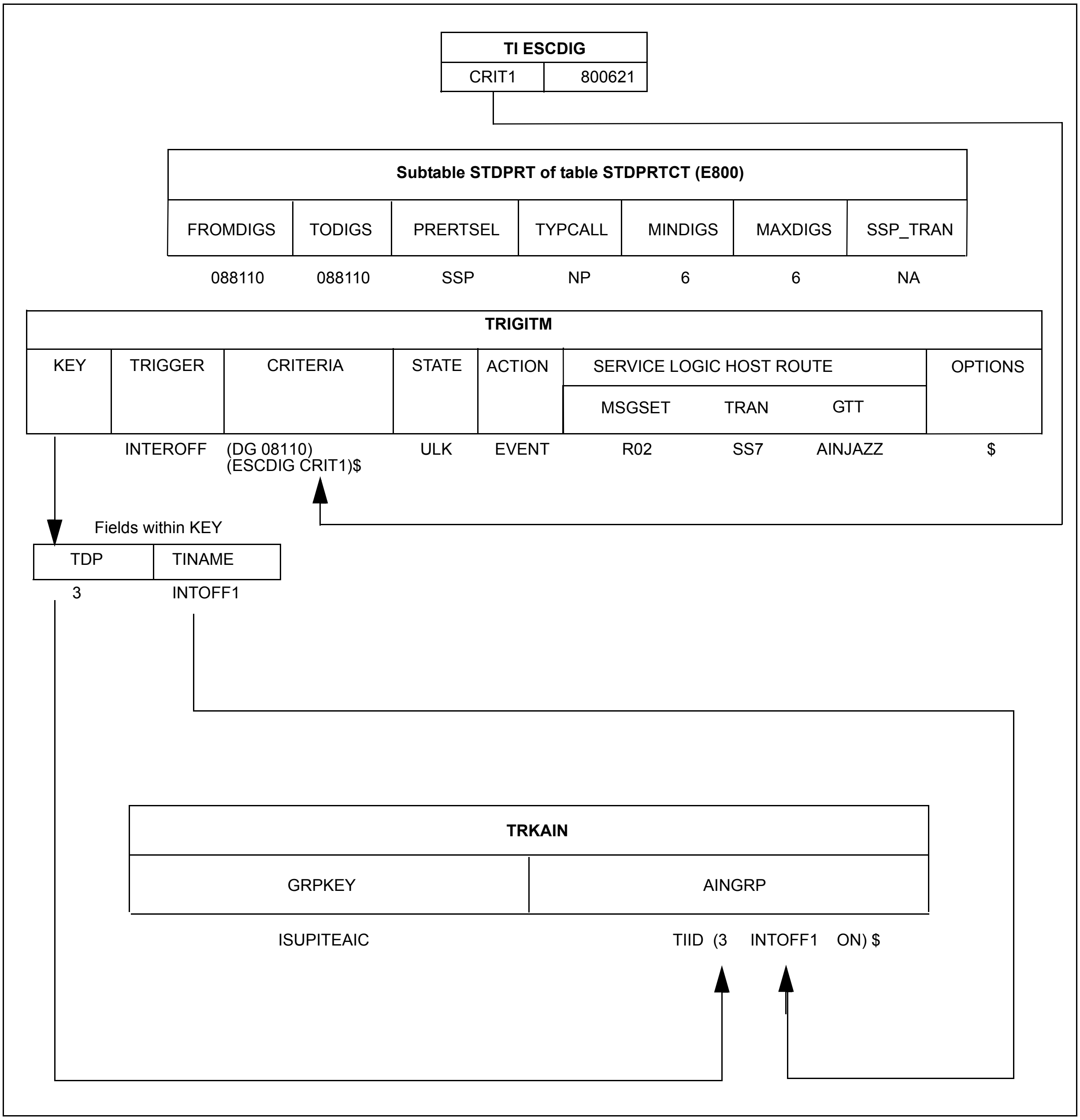
TIID		Trigger	Criteria	State	Action	MsgSet	Transport	GTT	Option
TDP	NAME								
3	INTOFF1	INTEROFF	(DG 08810) $	ULK	EVENT	R02	SS7	AINJAZZ	$

Table 314 Sample datafill for trigger INTEROFF

GRPKEY	AINGRP
ISUPITEAIC	TIID (3 INTOFF1 ON) $

Figure 150 shows sample datafill for trigger INTEROFF.

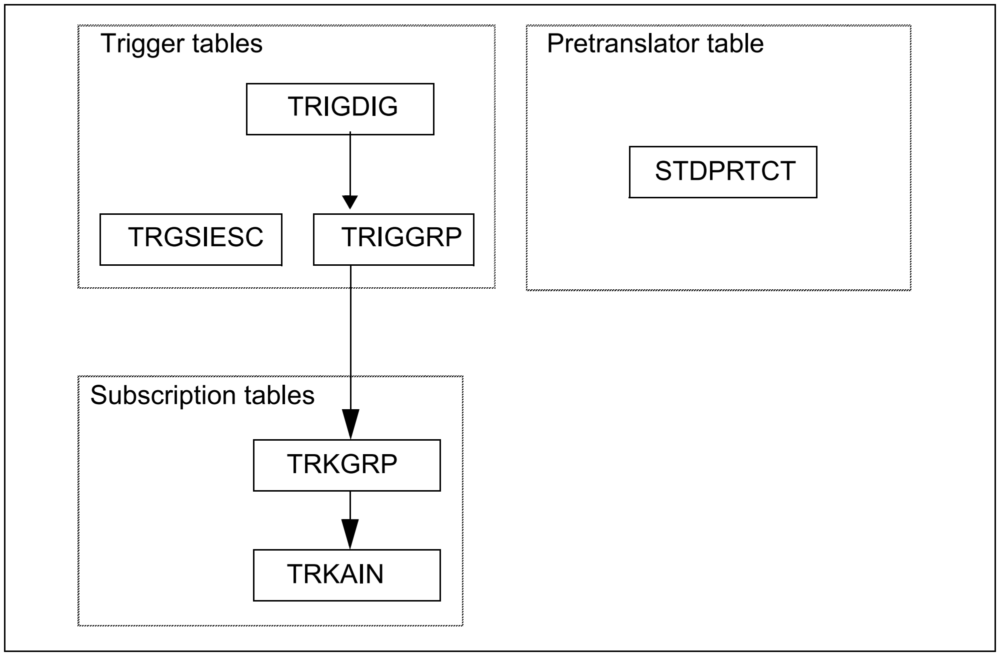
Figure 150 Sample datafill for the INTEROFF trigger



21.3 Trigger group provisioning interface

Figure 151 shows the datafilling hierarchy required by the INTEROFF trigger.

Figure 151 Datafilling hierarchy for INTEROFF trigger



21.3.1 Step 1: Datafilling table STDPRTCT and its subtable STDPRT

Table STDPRTCT and its subtable STDPRT must be datafilled to indicate that AIN Service Enablers SSP processing is required based upon the 0ZZXXX digits received over the trunk facility.

For an Equal Access Multi Frequency (EAMF)trunking facility, the SSP uses the XXX to determine that SSP processing is required. The XXX must have a value of the office parameter SSP_NSC_CARRIER_ID which can be datafilled in table OFCENG. The 0ZZ is used by the SSP to identify the call as one that requires AIN Service Enablers processing. The exact value of the 0ZZ digits should be agreed upon by the equal access end office (EAEO) and the AIN SSP.

> ***Note:*** If neither the E800 service package (NTX554) nor the Private Virtual Network (PVN) package (BTX983) is in the office, the office parameter SSP_NSC_CARRIER_ID does not exist. In that case, the XXX must be outpulsed as 011, or the XXXX digits must be outpulsed as 0110.

For SS7 trunking facilities carrying equal access (EA) traffic, the SSP uses the XXX information found in the Transit Network Selection (TNS) parameter to determine that SSP processing is required. Once again, the XXX must have a value for the office parameter SSP_NSC_CARRIER_ID to indicate that SSP processing is required. The 0ZZ information found in the Originating Line Information (OLI) parameter is used by the SSP to identify the call as a call that requires AIN Service Enablers processing.

When datafilling the table STDPRTCT for either one of the above trunks, position on the pretranslator of the originating trunk. Then, go to subtable STDPRT. Specify the 0ZZXXX digits received over the trunk in field FROMDIGS and TODIGS. Also, specify SSP routing selector in field PRERTSE.

21.3.2 Step 2: Datafilling table TRGSIESC

Escape codes provide a way for subscribers of the Shared Interoffice Trunk (INTEROFF) trigger to make certain calls (for example 1011018006212000) without triggering at the Shared Interoffice Trunk trigger when routing from an EAEO to an IT trunk using FGD signaling. The SSP maintains a list of all escape codes in table TRGSIESC. These codes do not include the OZZXXX(X) digits but do specify North American Numbering Plan numbers.

Escape from the Shared Interoffice Trunk trigger occurs when a call is received from an IT FGD trunk specifying OZZXXX(X) digits indicating the value for the office parameter SSP_NSC_CARRIER_ID requires SSP processing. Optional Escape criterion (ESC) is datafilled in table TRIGGRP for the AINGRP subscribing to the INTEROFF trigger type. The number called must be on the administered escape code list.

If escape from the Shared Interoffice Trunk trigger occurs, triggering does not take place, no query is sent, and call processing continues at the INFOANAL point in call. Subsequent triggering may take place at subsequent trigger detection points (TDPs).

> ***Note:*** When several variations of a number on the escape code list may be dialed, all variations of that number must occur in the list. Digit matching begins using the NPA portion of the dialed number.

The length of the escape code can be 1 to 10 digits. The digits in TRGSIESC must match the result of removing prefix digits from the string of dialed digits as in Table 315.

Table 315 Inpulsed digits and matching TRGSIESC digits

Inpulsed digits	Matched TRGSIESC digits
0771108006213512	8006213512
088011016132427687	6132427687
0661108008196223456	800819

21.3.3 Step 3: Datafilling table TRIGDIG

The digit criterion (DG) is mandatory for the INTEROFF trigger type. A DIGNAME must be datafilled in table TRIGDIG before it can be referenced from table TRIGGRP. A DIGNAME indicates addressing information based on dialed digits and the action to be performed by the SSP when the digits criteria are met. The following steps outline the procedure to datafill table TRIGDIG:

1. In response to the KEY prompt, enter a DIGNAME, a TRIGGER and the DIGITS. For example, enter INTERDIG (or some other name) for the DIGNAME, INTEROFF to specify trigger Shared_Interoffice_Trunk, and the 0ZZXXX digits received over the trunk, (for example, 088110).
2. In response to the TRIGGER prompt, enter INTEROFF.
3. In response to the ACTION prompt, enter EVENT. The ESCAPE action is not valid for this trigger.
4. In response to the PROTOCOL prompt, enter TCAP.
5. In response to the MSGSET prompt, enter R02 or R01.
6. In response to the TRANSPRT prompt, enter SS7.
7. In response to the GTT prompt, enter a global title translation (GTT) variable (for example, AINJAZZ).
8. In response to the GTSOURCE prompt, enter a GT source (for example, DFLT).
9. In response to the OPTION prompt, enter $. No options are valid for this trigger.

Assumptions regarding the datafilling of the ACTION field in all triggering examples are described in Chapter 17: “Provisioning assumptions” on page 575.

21.3.4 Step 4: Datafilling table TRIGGRP

An AINGRP that contains trigger INTEROFF must be defined in table TRIGGRP before it can be referenced in any subscription table.

Table TRIGGRP is keyed on the trigger group name and trigger detection point (TDP). Create a name for the AINGRP (up to 16 characters). The TDP for the INTEROFF trigger type must be INFOCOL. The following steps outline the procedure to datafill table TRIGGRP:

1. In response to the KEY prompt, enter your AINGRP name (for example, INTERTRIG), and INFOCOL, that specifies the Info_Collected TDP.
2. In response to the TRIGGER prompt, enter INTEROFF.
3. In response to the CRITERIA prompt, the following criteria can be entered for the INTEROFF trigger:
   a. Call type (CT) criterion, this criterion is optional. At the CT prompt, enter VBINFO for voice or CMDATA for data. If the CT criterion is

not specified, then both voice and data calls will trigger if all other criteria are satisfied.

> ***Note:*** When the CT criterion is specified, enter it as the first criteria.

b. Digits (DG) criterion, this criterion is mandatory for the INTEROFF trigger. When the DG criterion is specified, you are prompted for the DIGNAME. In response to the DIGNAME prompt, enter the DIGNAME you defined in Section 21.3.3 “Step 3: Datafilling table TRIGDIG” on page 659.

c. Escape (ESC) criterion, this criterion is optional. For more details, see Section 21.3.2 “Step 2: Datafilling table TRGSIESC” on page 659.

When all desired criteria have been entered, enter $ at the CRITERIA prompt.

4. In response to the INFONAME prompt, enter NIL.
5. When all desired triggers have been entered, enter $ at the TRIGGER prompt.

21.3.5 Step 5: Datafilling table TRKAIN

Public facility trunk groups (POTS trunk groups) can subscribe to this trigger in table TRKAIN. The subscription is done on a trunk-group basis. The following steps outline the required procedure to datafill table TRKAIN:

1. In response to the GRPKEY prompt, enter a trunk group name from the TRKGRP table.
2. In response to the AINGRP prompt, enter the AINGRP name you defined in step 4.

Among the POTS trunks, the inter-toll (IT) trunk groups are the only AIN-supported trunks that can subscribe and subsequently trigger at INTEROFF. Among the IT trunks, only the EAMF trunking facility, or the SS7 trunking facilities that carry EA traffic are supported to trigger at INTEROFF.

Table 316 summarizes steps 1 to 5. It illustrates the trigger definition and subscription tables for the INTEROFF trigger type.

Table 316 INTEROFF trigger definition and subscription tables

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Sub-scription tables	Option	SERVORD
INFOCOL	INTEROFF	CT DG (M) ESC	TRIGGRP TRIGDIG TRGSIESC	Trunk group (POTS trunk group)	TRKAIN	AIN	No
Note: (M) = mandatory							

21.3.6 Step 6: Verifying with TRAVER

The TRAVER utility can be used to determine whether or not the datafill has been set up to allow the call to trigger at INTEROFF.

The following sections describe three sample calls that encounter trigger INTEROFF. The first example triggers at INTEROFF. The second example shows the new message, No called digits specified, when no called digits are included in the TRAVER command line using 0ZZXXX(X) digits. The third example shows trigger INTEROFF not triggering because the escape criteria is satisfied.

Figure 152 on page 664 illustrates the datafill for these three examples. It shows the dependencies between the datafill tables. Apply the instructions already outlined in steps 1 to 5 to add the sample tuples shown in Figure 152 on page 664 and verify the datafill using TRAVER. The TRAVER outputs are provided in Figure 153 on page 665 to Figure 158 on page 669.

21.3.6.1 Example 1: ISUP IT incoming trunk

From incoming trunk ISUPITEAIC that carries EA traffic, digits 0991106136213511 are impulsed. The incoming trunk's trunk group type is IT, and the pretranslator name associated with the trunk is E800. The protocol associated with it is Q764, that is an SS7 trunk. Since the incoming trunk ISUPITEAIC has subscribed to an AINGRP called TRKTRIGGRP2, which includes the INTEROFF trigger, the call triggers at INTEROFF.

21.3.6.2 Example 2: ISUP IT incoming trunk using OZZXXX digits only in the TRAVER command line

From incoming trunk ISUPITEAIC that carries EA traffic, digits 099110 are inpulsed. The incoming trunk's group type is IT, and the pretranslator name associated with the trunk is E800. The protocol associated with it is Q764, that is, an SS7 trunk. The incoming trunk ISUPITEAIC has subscribed to an

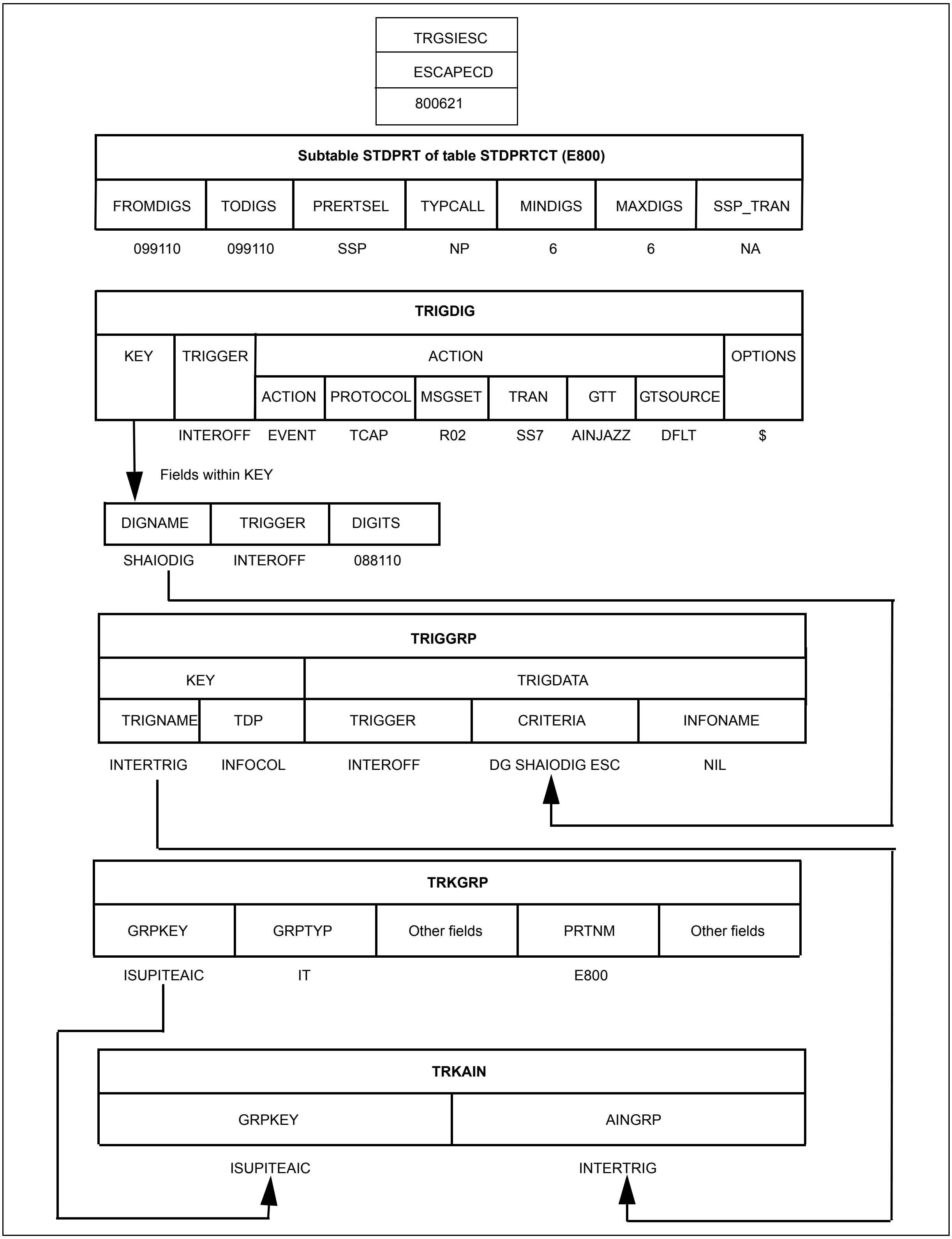
AINGRP called TRKTRIGGRP2, which includes the INTEROFF trigger and has the optional escape criteria. The call triggers at INTEROFF. A message is displayed by TRAVER indicating that no called digits have been specified.

21.3.6.3 Example 3: ISUP IT incoming trunk (ESC)

From incoming trunk ISUPITEAIC that carries EA traffic, digits 0991108006213512 are inpulsed. The incoming trunk's group type is IT, and the pretranslator name associated with the trunk is E800. The protocol associated with it is Q764, that is, an SS7 trunk. The incoming trunk ISUPITEAIC has subscribed to an AINGRP called TRKTRIGGRP2, which includes the INTEROFF trigger and has the optional escape criteria. A match is found in the escape code list and the call does not trigger.

The order in the TRAVER output reflects the translation order only. For the datafill order, see Section 21.3 “Trigger group provisioning interface” on page 657.

Figure 152 Sample datafill for three INTEROFF examples



In the INTEROFF examples, the trunking facility is an SS7 trunk that carries EA traffic. The 0ZZ code is 099 and the XXX code is 110. Because of this, a tuple must be added to subtable STDPRT of table STDPRTCT E800 to indicate that SSP processing is required. See Figure 152 on page 664 (the required tuple is shown at the top of the figure). E800 is the pretranslator of the originating trunk ISUPITEAIC.

21.3.7 Verifying with TRAVER

Figure 153 to Figure 158 on page 669 provide TRAVER outputs for the three INTEROFF examples. Figure 153 to Figure 155 provide examples using the trigger group provisioning interface. Figure 156 to Figure 158 provide examples using the trigger item provisioning interface.

Figure 153 Sample TRAVER output for trigger INTEROFF (example 1)

```
>TRAVER TR ISUPITEAIC 0991106136213511 AIN AINCHG 6136222431 B
TABLE TRKGRP
ISUPITEAIC IT 63 ITTD NCRT IC NIL MIDL 613 E800 NSCR 613 000 N Y $
 .  . TABLE TRKAIN
 .  . ISUPITEAIC TRKTRIGGRP2
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE STDPRTCT
E800 ( 1) ( 0) 3
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 099110 099110 SSP NP 6 6 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE TRIGGRP
TRKTRIGGRP2 INFOCOL
 . INTEROFF ( DG SHAIODIG) ( ESC )$ NIL
Trigger AIN INTEROFF is applicable to individual POTS trunk.
 .  . TABLE TRIGDIG
 .  . SHAIODIG INTEROFF 099110 INTEROFF EVENT TCAP R02 SS7 AINJAZZ DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 6136222431 6136222431 SSNONLY (AINTEST) $
 .  . TABLE TRGSIESC
 .  . TUPLE NOT FOUND
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 153 Sample TRAVER output for trigger INTEROFF (example 1) (Continued)

```
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 154 Sample TRAVER output for trigger INTEROFF (example 2)

```
>TRAVER TR ISUPITEAIC 099110 AIN AINCHG 6136222431 B
TABLE TRKGRP
ISUPITEAIC IT 63 ITTD NCRT IC NIL MIDL 613 E800 NSCR 613 000 N Y $
 .  . TABLE TRKAIN
 .  . ISUPITEAIC TRKTRIGGRP2
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE STDPRTCT
E800 ( 1) ( 0) 3
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 099110 099110 SSP NP 6 6 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE TRIGGRP
TRKTRIGGRP2 INFOCOL
 . INTEROFF ( DG SHAIODIG) ( ESC )$ NIL
Trigger AIN INTEROFF is applicable to individual POTS trunk.
 .  . TABLE TRIGDIG
 .  . SHAIODIG INTEROFF 099110 INTEROFF EVENT TCAP R02 SS7 AINJAZZ DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 6136222431 6136222431 SSNONLY (AINTEST) $
No called digits specified
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++

No called digits specified

AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
```

Figure 154 Sample TRAVER output for trigger INTEROFF (example 2) (Continued)

```
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 155 Sample TRAVER output for trigger INTEROFF (example 3)

```
>TRAVER TR ISUPITEAIC 0991108006213512 AIN AINCHG 6136222431 B
TABLE TRKGRP
ISUPITEAIC IT 63 ITTD NCRT IC NIL MIDL 613 E800 NSCR 613 000 N Y $
 .  . TABLE TRKAIN
 .  . ISUPITEAIC TRKTRIGGRP2
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE STDPRTCT
E800 ( 1) ( 0) 3
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 099110 099110 SSP NP 6 6 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE TRIGGRP
TRKTRIGGRP2 INFOCOL
 . INTEROFF ( DG SHAIODIG) ( ESC )$ NIL
Trigger AIN INTEROFF is applicable to individual POTS trunk.
 .  . TABLE TRIGDIG
 .  . SHAIODIG INTEROFF 099110 INTEROFF EVENT TCAP R02 SS7 AINJAZZ DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 6136222431 6136222431 SSNONLY (AINTEST) $
 .  . TABLE TRGSIESC
 .  . 800621
AIN Info Collected TDP: trigger criteria not met.
TABLE TRIGGRP
OFCTRIGGRP_ALL INFOANAL
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
AIN Info Analyzed TDP: trigger criteria not met.

+++ TRAVER: SUCCESSFUL CALL TRACE +++



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

Figure 156Sample TRAVER output for trigger INTEROFF (example 1)

```
>TRAVER TR ISUPITEAIC 0991106136213511 AIN AINCHG 6136222431 B
TABLE TRKGRP
ISUPITEAIC IT 63 ITTD NCRT IC NIL MIDL 613 E800 NSCR 613 000 N Y $
 .  . TABLE TRKAIN
 .  . ISUPITEAIC TIID (3 I011110 ON) (3 I022110 ON) (3 I033110 ON) (3
I044110 ON)
 .  .     (3 I055110 ON) (3 I066110 ON) (3 I077110 ON) (3 I088110 ON) (3
I099110 ON) $
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE STDPRTCT
E800 ( 1) ( 0) 3
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 099110 099110 SSP NP 6 6 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
Checking AIN INTEROFF Trigger Items as INTEROFF is compatible with current
call
 .  . TABLE TRIGITM
 .  . 3 I099110 INTEROFF (DG 099110) (ESCDIG SIOESC) $ ULK EVENT R02 SS7
AINJAZZ $
 .  .  . TABLE TIESCDIG
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 6136222431 6136222431 SSNONLY (AINTEST) $
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 157 Sample TRAVER output for trigger INTEROFF (example 2)

```
>TRAVER TR ISUPITEAIC 099110 AIN AINCHG 6136222431 B
TABLE TRKGRP
```

Figure 157 Sample TRAVER output for trigger INTEROFF (example 2)

```
ISUPITEAIC IT 63 ITTD NCRT IC NIL MIDL 613 E800 NSCR 613 000 N Y $
 .  . TABLE TRKAIN
 .  . ISUPITEAIC TIID (3 I011110 ON) (3 I022110 ON) (3 I033110 ON) (3
I044110 ON)
 .  .     (3 I055110 ON) (3 I066110 ON) (3 I077110 ON) (3 I088110 ON) (3
I099110 ON) $
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE STDPRTCT
E800 ( 1) ( 0) 3
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 099110 099110 SSP NP 6 6 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
Checking AIN INTEROFF Trigger Items as INTEROFF is compatible with current
call
 .  . TABLE TRIGITM
 .  . 3 I099110 INTEROFF (DG 099110) (ESCDIG SIOESC) $ ULK EVENT R02 SS7
AINJAZZ $
No called digits specified
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 6136222431 6136222431 SSNONLY (AINTEST) $
AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++

No called digits specified

AIN Info Collected TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 158 Sample TRAVER output for trigger INTEROFF (example 3)

```
>TRAVER TR ISUPITEAIC 0991108006213512 AIN AINCHG 6136222431 B
TABLE TRKGRP
ISUPITEAIC IT 63 ITTD NCRT IC NIL MIDL 613 E800 NSCR 613 000 N Y $
 .  . TABLE TRKAIN
```

Figure 158 Sample TRAVER output for trigger INTEROFF (example 3)

```
 .  . ISUPITEAIC TIID (3 I011110 ON) (3 I022110 ON) (3 I033110 ON) (3
I044110 ON)
 .  .     (3 I055110 ON) (3 I066110 ON) (3 I077110 ON) (3 I088110 ON) (3
I099110 ON) $
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE STDPRTCT
E800 ( 1) ( 0) 3
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 099110 099110 SSP NP 6 6 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
Checking AIN INTEROFF Trigger Items as INTEROFF is compatible with current
call
 .  . TABLE TRIGITM
 .  . 3 I099110 INTEROFF (DG 099110) (ESCDIG SIOESC) $ ULK EVENT R02 SS7
AINJAZZ $
 .  .  . TABLE TIESCDIG
 .  .  . SIOESC 800621
Not triggering due to criteria: ESCDIG
AIN Info Collected TDP: trigger criteria not met.
TABLE TRIGGRP
OFCTRIGGRP_ALL INFOANAL
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
AIN Info Analyzed TDP: trigger criteria not met.

+++ TRAVER: SUCCESSFUL CALL TRACE +++



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

22 Specific_Feature_Code trigger

> **ATTENTION**
> Trigger SFC can be provisioned in two ways: either by using the trigger item or trigger group provisioning interface. A subscriber (office, customer group, or individual agent) can only subscribe to triggers defined by one provisioning interface, however, a call can encounter triggers provisioned in different provisioning interfaces at different subscription levels.

22.1 General

Trigger Specific_Feature_Code (SFC) occurs at the Info_Analyzed (INFOANAL) TDP in the originating call model (OCM). Trigger Specific_Feature_Code (SFC) is an individually-subscribed trigger that allows a user to dial specific feature codes or vertical service codes (VSCs) that are unique, by line. By dialing the code, a user causes the SSP to detect trigger SFC and query the SCP or adjunct to obtain further instructions about the specific feature.

The feature code for trigger SFC, known as an SCP vertical service code (VSC), is the mandatory trigger criteria for trigger SFC. A VSC can be one to seven digits, with the first digit being either an asterisk (*) or an octothorpe (#).

To enable subsequent digit collection, a VSC can be provisioned to perform the following tasks:

- query immediately
- query according to the normal dialing plan of the agent
- collect a variable number of digits
- collect up to the fixed number of digits

An SFC feature code can be one to six digits, and the first digit can be an asterisk (* = B in tables TRIGDIG and TRIGITM) or an octothorpe (# = C in tables TRIGDIG and TRIGITM). When either is the first character of the SFC feature code, then it should be removed and the DGLIDX field should be datafilled with the remaining SFC feature code digits. The NO_ACCODE_DIGITS field should be datafilled as the number of digits in the access code after the * or #. For example, when the SFC feature code *360 is dialed, the DGLIDX field in table IBNXLA can be specified as 360 and NO_ACCODE_DIGITS is 3.

22.1.1 SFC customer group subscription feature

The SFC customer group subscription feature allows for assigning SFC trigger items to customer groups. Individually subscribed triggers will take precedence over group based subscribed triggers. Only RES and ISDN BRI agents are allowed to trigger on SFC triggers that are subscribed at the customer group level. This functionality is only implemented in the trigger item provisioning interface.

Line option AINDENY provides a way of excluding individual lines from triggering for:

- particular trigger item IDs of SFC trigger types
- all group-subscribed trigger items of SFC trigger types

Please refer to Section 22.4 , “SFC customer group subscription,” on page 681 for a description of this feature.

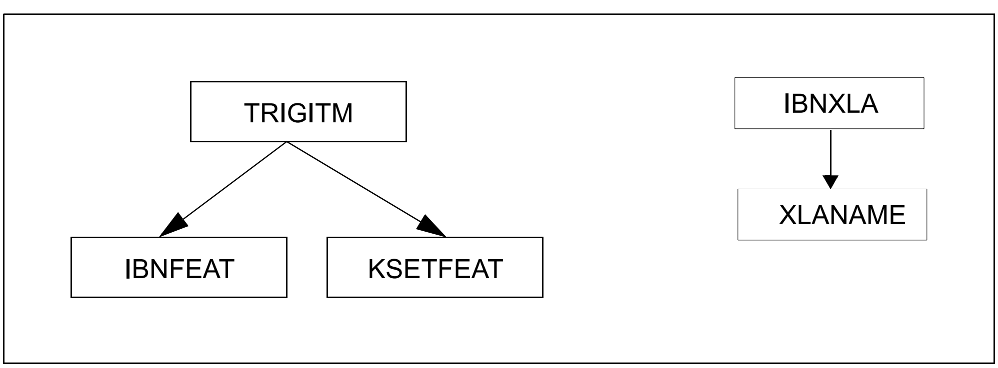
22.1.1.1 Adding option AINDENY to a DN

Telco personnel can subscribe RES and ISDN BRI agents to option AINDENY using the SERVORD command ADO. Please refer to Chapter 16.5: “SERVORD support for option AINDENY” on page 571.

22.2 Trigger item provisioning interface

Figure 159 illustrates the required steps to datafill trigger SFC. Figure 159 assumes that the trigger item provisioning interface for trigger SFC has been selected.

Figure 159 Datafilling hierarchy for trigger SFC



22.2.1 Step 1: Datafilling table TRIGITM

The SFC trigger type is digit-based. To specify trigger SFC, trigger item criteria must be datafilled in table TRIGITM. This information indicates the required SSP action when the criteria is satisfied.

1. In response to the TDP prompt, enter 4. This is the numeric code for the Info_Analyzed TDP.
2. In response to the TINAME prompt, enter the trigger item identifier (for example, enter SFCTRIG1).
3. In response to the TRIGGER prompt, enter SFC.
4. In response to the CRITERIA subfield prompts, enter any of the following for the SFC trigger. When all desired criteria have been entered, type $ at the CRITERIA prompt.
   a. Digits (DG) criterion, this criterion is mandatory for trigger SFC. In response to the DIGITS prompt, enter a suitable code such as b34. Note that symbol B is used to represent * and symbol C is used to represent # in table TRIGITM.
   b. Call type (CT) criterion, this criterion is optional. In response to the CT prompt, enter VBINFO for voice or CMDATA for data. If the CT criterion is not specified, then both voice and data calls will trigger if all other criteria are satisfied.
5. In response to the STATE field, enter LK or ULK. LK locks (or disables) a trigger item, and ULK unlocks (or enables) a trigger item.
6. In response to the ACTION prompt, type either EVENT or ESCAPE. EVENT instructs the SSP to launch a query when the trigger criterion has been satisfied. ESCAPE prevents a query from being launched. When choosing EVENT, the MSGSET, TRANSPRT, and GTT fields must be datafilled.
7. When EVENT is entered for the ACTION field, the user is prompted for SLHR subfields. In response to the service logic host route (SLHR) subfield prompts, enter the following for trigger SFC
   a. In response to the MSGSET prompt, enter R02.
   b. In response to the TRANSPRT prompt, enter SS7.
   c. In response to the GTT prompt, enter a global title translation (GTT) variable (for example, AINJAZZ).
8. In response to the OPTION prompt, type $. No options are valid for this trigger.

22.2.2 Step 2: Subscribing to trigger SFC

Subscription to trigger SFC is performed on an individual basis using option AIN. Trigger SFC supported agents are: RES, and ISDN BRI lines.

Use SERVORD to subscribe to an agent. The AINGRP field (trigger group name) determines the provisioning interface selection. When a trigger group name is datafilled, the trigger group provisioning interface is used. When the keyword, TIID is datafilled, the trigger item provisioning interface is used.

From SERVORD invoke command ADO to subscribe to an existing agent. The following steps describe the procedure:

1. In response to the SONUMBER prompt, enter $.
2. In response to the DN_OR_LEN prompt, enter and existing DN or LEN.
3. In response to the OPTION prompt, enter AIN.
4. In response to the AINGRP prompt, enter TIID.
5. In response to the TIASGN prompt, enter 4 to specify the Info_Analyzed TDP.
6. In response to the TINAME prompt, enter the 8 character alphanumeric string of a valid trigger item in table TRIGITM.
7. In response to the TRIGACT prompt, enter ON or OFF for the trigger activation state.
8. In response to the OPTION prompt, enter $ to indicating trigger item assignments are complete.

Table IBNFEAT stores subscriptions to AIN for RES lines. Table KSETFEAT stores subscriptions to AIN for ISDN BRI lines.

Table 317 provides trigger definition and subscription tables for the SFC trigger type.

Table 317 Trigger definition and subscription tables for the SFC trigger type

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Sub-scription tables	Option	SERVORD
INFOANAL	SFC	CT DG (M)	TRIGITM	Line (RES, ISDN)	IBNFEAT KSETFEAT	AIN	YES

22.2.3 Step 3: Datafilling tables IBNXLA and XLANAME

Table IBNXLA, as shown in Table 318, specifies the VSCs defined by the user. The AIN feature selector marks the VSC as AIN and the QUERYAFTER field determines the digit collection criteria.

Table 318 Sample IBNXLA table with SFC entries

KEY		Result	
XLANAME	**DIGITS**		**QUERYAFTER**
sfcftr0	23	FTR 2 AIN	IMMED
sfcftr1	24	FTR 2 AIN	VAR
sfcftr2	91	FTR 2 AIN	FIXED 4
sfcftr3	88	FTR 2 AIN	NORM

Table XLANAME, shown in Table 319, is used when no VSC is found in IBNXLA. The datafill is similar to that in table IBNXLA and requires the VSC, AIN FTR selector, and the QUERYAFTER field for specifying digit collection rules; that is IMMED, FIXED, VAR, or NORM.

Table 319 Sample XLANAME table with SFC entries

KEY	Result		MAXDIG
XLANAME		**QUERYAFTER**	
sfcftr1	FTR 2 AIN	IMMED	9
sfcftr2	FTR 2 AIN	FIXED	9

22.2.4 Sample SFC datafill

Table 320 illustrates sample datafill for trigger SFC.

Table 320 Table TRIGITM

TIID		Trigger	Criteria	State	Action	MsgSet	Transport	GTT	Option
TDP	**NAME**								
4	SFCT RIG1	SFC	(DG B333)$	ULK	EVENT	R02	SS7	AINJ AZZ	$

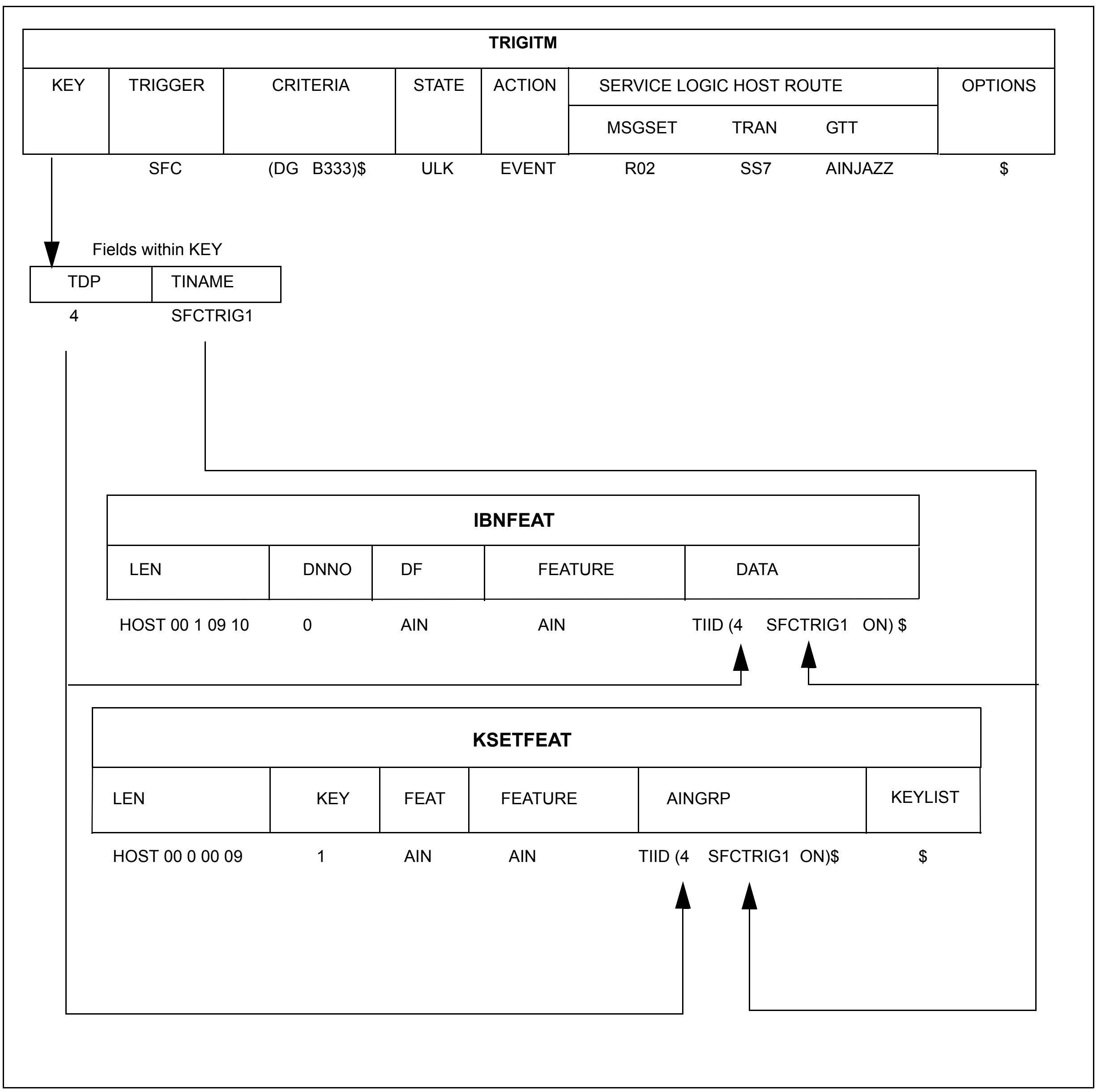
Table 321 illustrates sample datafill for subscribing trigger SFC to an agent.

Table 321 Table IBNFEAT

LEN	DNNO	DF	FEATURE	DATA
				AINGRP
HOST 00 1 09 10	0	AIN	AIN	TIID (4 SFCTRIG1 ON) $

Figure 160 on page 676 provides dependencies between the datafill tables.

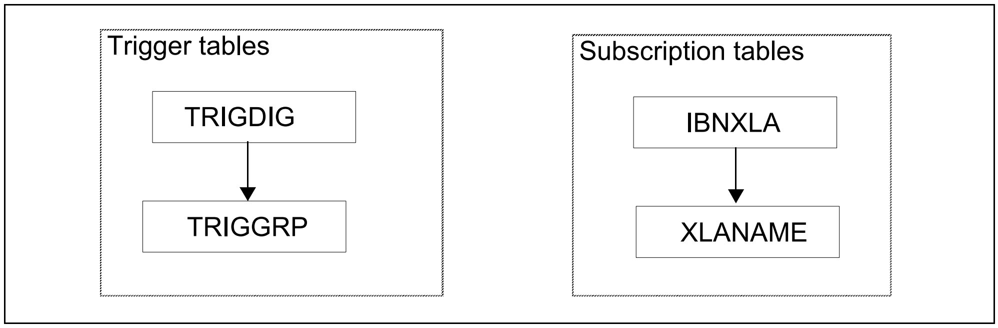
Figure 160 Sample datafill for trigger SFC



22.3 Trigger group provisioning interface

Figure 161 on page 677 illustrates the datafill hierarchy for trigger SFC.

Figure 161 Datafilling hierarchy for trigger SFC



22.3.1 Step 1: Datafilling table TRIGDIG

Table TRIGDIG accepts trigger SFC as a valid entry in a three-part key field and in the TRIGGER field:

1. In response to the KEY prompt, enter the 3-part key:
   a. In response to the DIGNAME prompt, type SFCDIG.
   b. In response to the TRIGGER prompt, type SFC.
   c. In response to the DIGITS prompt, type a suitable code such as *34.
2. In response to the TRIGGER prompt, type SFC.
3. In response to the ACTION prompt, type either EVENT or ESCAPE. EVENT causes the SSP to launch a query when the trigger criteria has been satisfied. ESCAPE prevents a query from being launched. When EVENT is entered, continue on to step 4. When ESCAPE is entered, skip step 4 and go to step 5.
4. When EVENT is entered for the ACTION field, the user is prompted for the SLHR subfields. In response to the service logic host route (SLHR) subfield prompts, enter the following for trigger SFC
   a. In response to the PROTOCOL prompt, enter TCAP.
   b. In response to the MSGSET prompt, enter R02.
   c. In response to the TRANSPRT prompt, enter SS7.
   d. In response to the GTT prompt, enter a Global Title source such as DFLT.
   e. In response to the GTSOURCE prompt, enter a global title translation (GTT) variable, for example, AINJAZZ.
5. In response to the OPTION prompt, enter $. No options are valid for this field.

22.3.2 Step 2: Datafilling table TRIGGRP

To add the SFC trigger to an AIN group in table TRGGRP, type in the following data:

1. In response to the KEY prompt, enter the 2-part key:
   a. For the TRIGNAME, type a trigger group name, such as SFCAINTRIG.
   b. For the TDP, type INFOANAL to specify the Info_Analyzed TDP.
2. In response to the TRIGGER prompt, type SFC.
3. In response to the CRITERIA prompt enter any of the following for trigger SFC:
   a. Call type (CT) criterion, this criteria is optional. In response to the CT prompt, enter VBINFO for voice, and CMDATA for data. When the CT criterion is not specified, then both voice and data trigger, when all other criteria is satisfied.
   b. Digits criterion (DG), this criterion is mandatory. In response to the DIGNAME prompt, enter SFCDIG.
4. In response to the DIGNAME prompt of the TRIGDATA field, type SFCDIG. This is the same identifier as the one specified in Section 22.3.1 "Step 1: Datafilling table TRIGDIG" on page 677.

   Note: When the call type (CT) criteria are also specified, enter these criteria before the DG criteria.

5. In response to the INFONAME prompt, enter NIL.
6. In response to the TRIGGER prompt, enter $ if you are finished adding triggers to the group. If more triggers need to be added, continue entering them, starting with the TRIGGER field.

22.3.3 Step 3: Subscribing to trigger SFC

Subscription to trigger SFC is performed on an individual basis by the AIN option. Trigger SFC supports both RES and ISDN BRI line agents.

Use SERVORD to subscribe to an agent. The AINGRP field (trigger group name) determines the provisioning interface selection. When a trigger group name is datafilled, the trigger group provisioning interface is used. When the keyword, TIID is datafilled, the trigger item provisioning interface is used.

From SERVORD invoke command ADO to subscribe to an existing agent. The following steps describe the procedure:

1. In response to the SONUMBER prompt, enter $.
2. In response to the DN_OR_LEN prompt, enter and existing DN or LEN.

3. In response to the OPTION prompt, enter AIN.
4. In response to the AINGRP prompt, enter SFCAINTRIG.
5. In response to the OPTION prompt, enter $ to indicate trigger group assignments are complete.

Table IBNFEAT stores subscriptions to AIN for RES lines. Table KSETFEAT stores subscriptions to AIN for ISDN BRI lines.

Table 322 provides trigger definition and subscription tables for the SFC trigger type.

Table 322 Trigger definition and subscription tables for the SFC trigger type

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Sub-scription tables	Option	SERVORD
INFOANAL	SFC	CT DG (M)	TRIGITM	Line (RES, ISDN)	IBNFEAT KSETFEAT	AIN	YES

22.3.4 Provisioning tables IBNXLA and XLANAME

Table IBNXLA, as shown in Table 323, specifies the VSCs defined by the user. The AIN feature selector marks the VSC as AIN and the QUERYAFTER field determines the digit collection criteria.

Table 323 Sample IBNXLA table with SFC Entries

Key		Result	
XLANAME	DIGITS		QUERYAFTER
sfcftr0	23	FTR 2 AIN	IMMED
sfcftr1	24	FTR 2 AIN	VAR
sfcftr2	91	FTR 2 AIN	FIXED 4
sfcftr3	88	FTR 2 AIN	NORM

Table XLANAME, shown in Table 324, is used when no VSC is found in table IBNXLA. The datafill is similar to that in table IBNXLA and requires the

VSC, AIN FTR selector, and the QUERYAFTER field for specifying digit collection rules; that is IMMED, FIXED, VAR, or NORM.

Table 324 Sample XLANAME table with SFC Entries

Key	**Result**		**MAXDIG**
XLANAME		**QUERYAFTER**	
sfcftr1	FTR 2 AIN	IMMED	9
sfcftr2	FTR 2 AIN	FIXED	9

22.3.5 SFC example

Figure 162 provides sample datafill for trigger SFC.

Figure 162 Sample datafill for SFC

TRIGDIG								
KEY		ACTION						OPTIONS
	TRIGGER	ACTION	PROTOCOL	MSGSET	TRAN	GTT	GTSOURCE	
	SFC	EVENT	TCAP	R02	SS7	AINJAZZ	DFLT	$
	SFC	ESCAPE						

Fields within KEY

DIGNAME	TRIGGER	DIGITS
SFCDIG	SFC	B333

TRIGGRP				
KEY		TRIGDATA		
TRIGNAME	TDP	TRIGGER	CRITERIA	INFONAME
SFCAINTRIG	INFOANAL	(SFC	(DG SFCDIG)$	NIL)$

TRIGDATA				
LEN	DNNO	DF	FEATURE	DATA
HOST 0010910	0	AIN	AIN	SFCAINTRIG

22.4 SFC customer group subscription

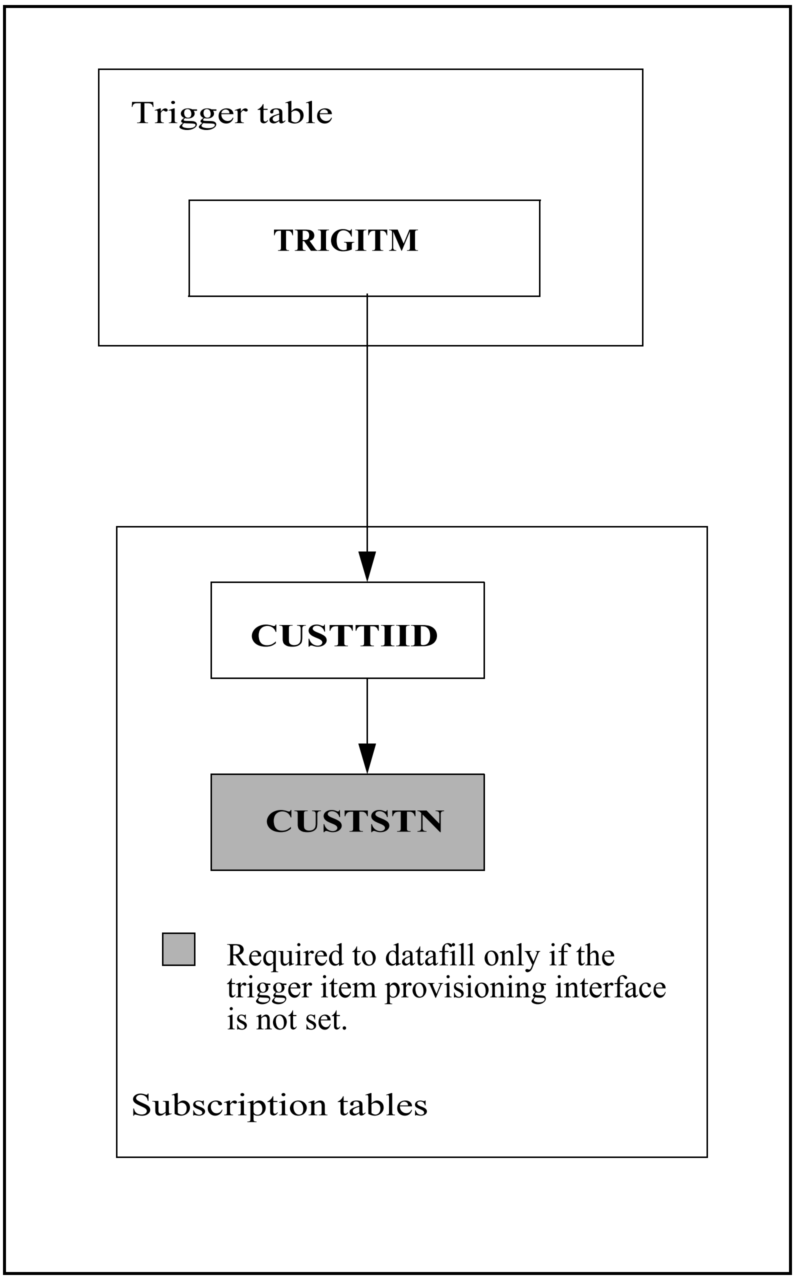
This section describes datafill for SFC customer group subscription.

22.4.1 Administrative interface for SFC customer group subscription

In order to subscribe SFC trigger on a customer group, the following tables must be datafilled:

- TRIGITM - For defining the trigger item
- CUSTTIID - For assigning the trigger items to a customer group
- CUSTSTN - For selecting trigger item provisioning interface for customer groups

Figure 163 Datafill hierarchy for provision SFC on a customer group basis



22.4.1.1 Step 1: Datafilling Table TRIGITM

The SFC trigger type is digit-based. To specify trigger SFC, trigger item criteria must be datafilled in Table TRIGITM. This information indicates the required SSP action when the criteria is satisfied.

1. In response to the TDP prompt, enter 4. This is the numeric code for the Info_Analyzed TDP.
2. In response to the TINAME prompt, enter the trigger item identifier (for example, enter SFCTRIG1).
3. In response to the TRIGGER prompt, enter SFC.
4. In response to the CRITERIA subfield prompts, enter any of the following for the SFC trigger. When all desired criteria have been entered, type $ at the CRITERIA prompt.
   - Digits (DG) criterion: This criterion is mandatory for trigger SFC. In response to the DIGITS prompt, enter a suitable code such as b34. Note that symbol B is used to represent * and symbol C is used to represent # in Table TRIGITM.
   - Call type (CT) criterion: This criterion is optional. In response to the CT prompt, enter VBINFO for voice or CMDATA for data. If the CT criterion is not specified, then both voice and data calls will trigger if all other criteria are satisfied.
5. In response to the STATE field, enter LK or ULK. LK locks (or disables) a trigger item, and ULK unlocks (or enables) a trigger item.
6. In response to the ACTION prompt, type either EVENT or ESCAPE. EVENT instructs the SSP to launch a query when the trigger criterion has been satisfied. ESCAPE prevents a query from being launched. When choosing EVENT, the MSGSET, TRANSPRT, and GTT fields must be datafilled.
7. When EVENT is entered for the ACTION field, the end user is prompted for SLHR subfields. In response to the service logic host route (SLHR) subfield prompts, enter the following for trigger SFC:
   - In response to the MSGSET prompt, enter R02.
   - In response to the TRANSPRT prompt, enter SS7.
   - In response to the GTT prompt, enter a global title translation (GTT) variable (for example, AINJAZZ).
8. In response to the OPTION prompt, type $. No options are valid for this trigger.

22.4.1.2 Step 2: Assigning trigger items to a customer group

Table CONTROL will be used to subscribe to SFC trigger items to a customer group. When a customer group is subscribed to SFC triggers, only RES and

ISDN BRI agents in the customer group can encounter the trigger. Follow these steps.

1. Enter Table CUSTTIID and enter the add mode.
2. In response to CUSTNAME, enter a valid customer group name.
3. In response to the TDP prompt, enter 4 to specify the Information Analyzed TDP.
4. In response to the TINAME prompt, enter the alphanumeric string of a valid SFC trigger item from Table TRIGITM.
5. In response to the TRIGACT prompt, enter ON or OFF for the trigger activation stage.

22.4.1.3 Step 3: Selecting trigger item provisioning interface for customer groups

The selector for the customer group in the Table CUSTSTN must be checked to make sure that the customer group is using trigger item data model. These steps must be followed:

1. Enter the Table CUSTSTN and position on the customer group.
2. In response to the CUSTNAME, enter the valid customer group name (as entered in Table CUSTTIID)
3. In response to the OPTNAME prompt, enter AIN.
4. The current AIN subscription (when available) is displayed for the customer group. Change this subscription to TIID, as this feature only supports the new data model.

Table IBNFEAT stores subscriptions to AIN for RES lines. Table KSETFEAT stores subscriptions to AIN for ISDN BRI lines.

22.4.1.4 Trigger definition and subscription tables

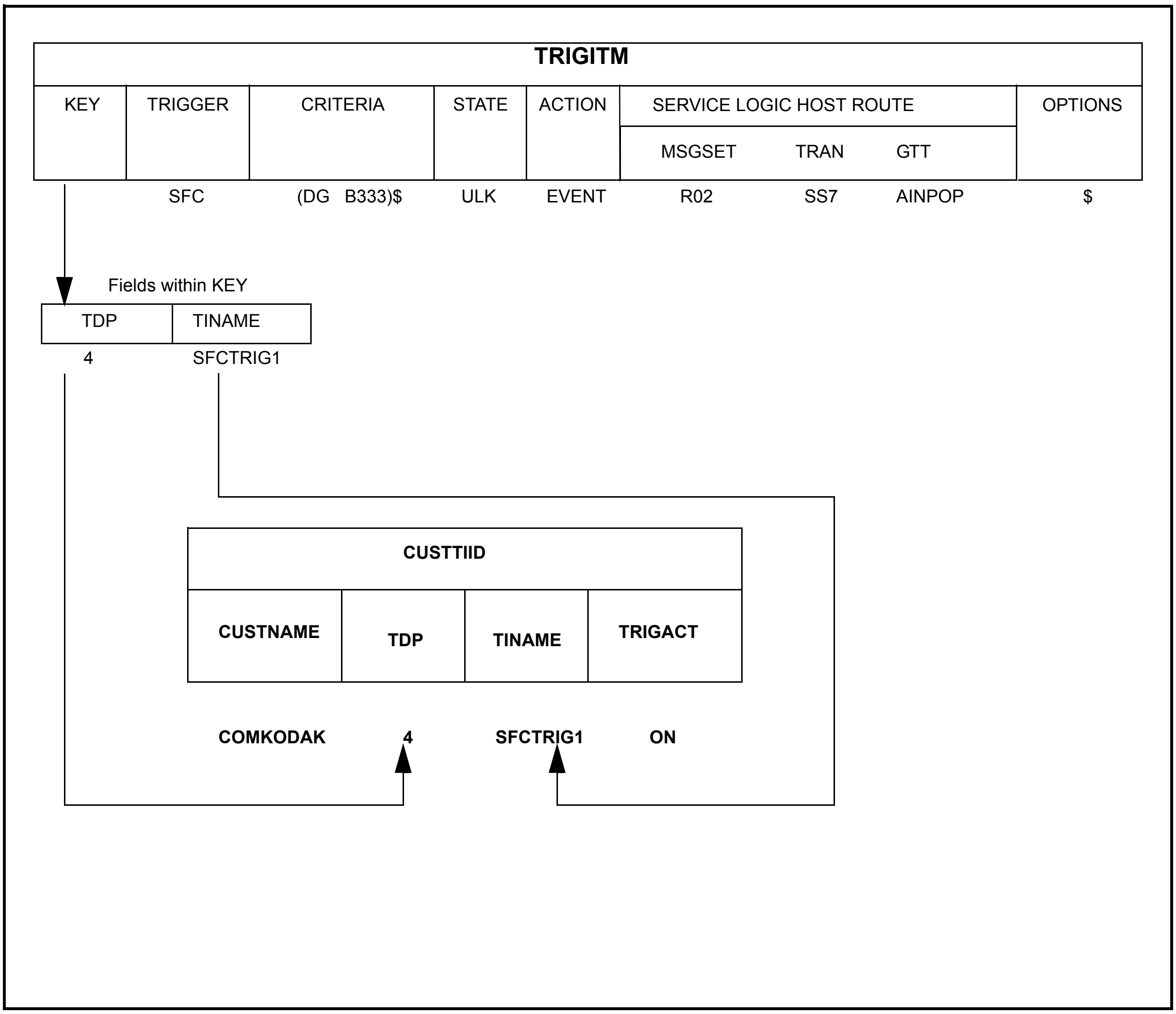
The following table shows the table definition and subscription required for SFC on a customer group.

Table 325 Table definitions and subscription tables for SFC trigger types

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Subscription tables	Option	SERVORD
INFOANAL	SFC	CT	TRIGITM	RES line	IBNFEAT	AIN	YES
		DG(M)		ISDN line	KSETFEAT		
				Customer Group	CUSTTIID CUSTSTN	AIN	NO

The following figure shows a sample datafill for customer group provisioning for an SFC trigger. A PFC trigger can also be provisioned in a similar way for a customer group subscription. The only difference is that the TRIGITM needs to have a PFC tuple.

Figure 164 Sample datafill for SFC on a customer group basis



22.5 Verifying with TRAVER

When the datafill is set up for trigger SFC, the TRAVER utility is used to verify AIN Service Enablers triggering. Refer to Section 22.15.1.1 , “TRAVER provisioning example,” on page 543 for examples.

23 Public_Feature_Code trigger

> **ATTENTION**
> Trigger PFC can be provisioned in two ways: either by using the trigger item or trigger group provisioning interface. A subscriber (office, customer group, or individual agent) can only subscribe to triggers defined by one provisioning interface, however, a call can encounter triggers provisioned in different provisioning interfaces at different subscription levels.

23.1 General

Trigger Public_Feature_Code (PFC) occurs at the Info_Analyzed (INFOANAL) trigger detection point (TDP) in the originating basic call model (BCM).

Trigger PFC's feature code, known as the SCP vertical service code (VSC), is the mandatory trigger criteria for trigger PFC. A VSC can be one to seven digits, with the first digit being either an asterisk (*) or an octothorpe (#).

To enable subsequent digit collection, a VSC can be provisioned to perform the following tasks:

- query immediately
- query according to the normal dialing plan of the agent
- collect a variable number of digits
- collect up to the fixed number of digits

A PFC feature code can be one to six digits, and the first digit can be an asterisk (* = B in tables TRIGDIG and TRIGITM) or an octothorpe (# = C in tables TRIGDIG and TRIGITM). When either is the first character of the PFC feature code, then it should be removed and the DGLIDX field should be datafilled with the remaining PFC feature code digits. The NO_ACCODE_DIGITS field should be datafilled as the number of digits in the access code after the * or #.

For example, when the PFC feature code *360 is dialed, the DGLIDX field in table IBNXLA can be specified as 360 and NO_ACCODE_DIGITS is 3.

> ***Note:*** In AIN Service Enablers, trigger PFC is equivalent to trigger PODPFEAT in AIN Essentials. Since both triggers share the same provisioning, TRAVER and other provisioning tools use the term PODPFEAT to refer to trigger PFC.

23.1.1 PFC customer group subscription

The PFC customer group subscription feature allows for assigning PFC trigger items to customer groups. Individually subscribed triggers take precedence over group based subscribed triggers. Only RES and ISDN BRI agents are allowed to trigger on PFC triggers that are subscribed at the customer group level. This functionality is only implemented in the trigger item provisioning interface.

Line option AINDENY provides a way of excluding individual lines from triggering for

- particular trigger item IDs of PFC trigger types
- all group-subscribed trigger items of PFC trigger types

Please refer to Section 22.4 , “SFC customer group subscription,” on page 681 for a description of this feature.

23.1.1.1 Adding option AINDENY to a DN

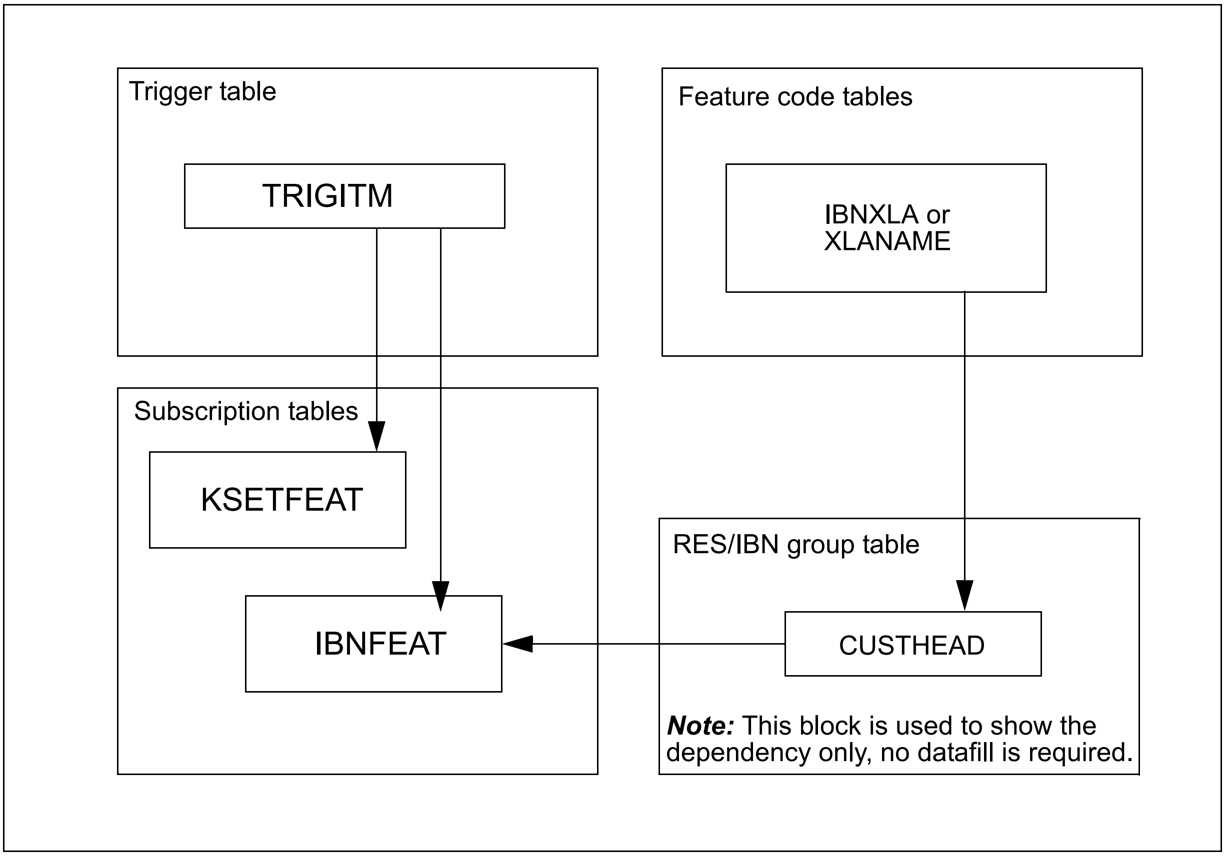
Telco personnel can subscribe RES and ISDN BRI agents to option AINDENY using the SERVORD command ADO. Please refer to Chapter 16.5: “SERVORD support for option AINDENY” on page 571.

23.2 Trigger item provisioning interface

The feature code and the pattern for the starting digit and the total number of digits must be determined before any datafill tasks are performed.

Figure 165 shows the datafilling steps required by the PFC trigger. Figure 165 assumes that the trigger item provisioning interface for the PFC trigger has been selected.

Figure 165 Datafilling hierarchy for trigger PFC



23.2.1 Step 1: Datafilling table TRIGITM

The PFC trigger type is digit based, and trigger item actions must be datafilled in table TRIGITM. This information indicates the action to be performed by the SSP when the digits criterion is met.

1. In response to the TDP prompt, enter 4. This is the numeric code for the Info_Analyzed TDP.
2. In response to the TINAME prompt, enter the trigger item identifier you wish to use. For example, enter PODPTRG1.
3. In response to the TRIGGER prompt, enter PFC.
4. In response to the CRITERIA subfield prompts, enter any of the following for the PFC trigger. When all desired criteria have been entered, type $ at the CRITERIA prompt.
   - Digits (DG) criterion: This criterion is mandatory for the PFC trigger In response to the DIGITS prompt, enter the digits to be matched against the feature code (VSC) dialed. Note that symbol B is used to

represent * and symbol C is used to represent # in table TRIGITM.This criterion is mandatory for trigger PFC.

- Call Type (CT) criterion: This criterion is optional. For voice, enter VBINFO. For data, enter CMDATA. If the CT criterion is not specified, then both voice and data calls will trigger if all other criteria are satisfied.

5. In response to the STATE field, enter LK or ULK. LK locks (or disables) a trigger item; ULK unlocks (or enables) a trigger item.
6. In response to the ACTION prompt, type either EVENT or ESCAPE. EVENT instructs the SSP to launch a query when the trigger criterion has been satisfied. ESCAPE prevents a query from being launched. If you choose EVENT, you must datafilled the MsgSet, TRANSPORT, and GTT fields. If you entered ESCAPE, you will not be prompted for this data.
7. In response to the Service Logic Host Route (SLHR) subfield prompts, enter any of the following for the PFC trigger.
   - In response to the MSGSET prompt, enter R02. R01 is also a valid message set for this trigger.
   - In response to the TRANSPORT prompt, enter SS7.
   - In response to the GTT prompt, enter a Global Title Translation variable, for example, AINJAZZ.
8. The end user is prompted for the OPTION field. This field is optional. When choosing ESCAPE at the ACTION prompt, the OPTION field cannot be datafilled (enter $). When all desired options have been entered, type $ at the OPTION prompt. When datafilling the OPTION field, the choices are as follows:
   - Default routing (DFLTRT) option.
   - Line attribute response processing (LARP) option. This option provides post query processing for the trigger. When this option is not specified, the originator’s line attributes are used. See Section 46.2.2 “Datafilling for line attribute response processing” on page 1536 for more information on datafilling the LARP option.

23.2.2 Step 2: Datafilling for line attribute response processing

The line attribute response processing (LARP) option provides post query processing for triggers. This option allows overriding line attributes to be assigned against individual trigger items that replace the originator’s line attributes during response processing. When this option is not specified, the originator’s line attributes are used.

Overriding line attributes are defined by the following fields: LINEATTR, XLAPLAN, RATEAREA, primary interexchange carrier, and local primary interexchange carrier.

This functionality is available whether or not the switch has lines provisioned. The switch must be able to provision line attributes and trigger items in order to provide overriding line attributes for a trigger.

This functionality was enhanced in NA015. It now provides the operating companies the flexibility to let the response processing on a trigger having overriding line attributes to be treated as a re-direction or no re-direction with a field, REDIR. It also provides the operating company with control of overriding the forwarding attributes with a field, FWDATTR.

The redirection attribute is defined by the field REDIR. The forwarding attribute is controlled by the selector field FWDATTR and the forwarding attributes are defined by the following fields: REDIR_REASON, REDIR_PARTY_ID, TCM and CHARGE_NUMBER.

The following steps describe how to datafill the LARP option for a trigger item:

> ***Note:*** The following tables must be datafilled before the LARP option: LINEATTR, XLAPLAN, RATEAREA, OCCNAME, and OCCINFO.

1. Enter LARP at the OPTION prompt while datafilling the trigger item.
2. In response to the LINEATTR prompt, enter the value that associates the trigger with the corresponding index in table LINEATTR. This field is mandatory.
3. In response to the XLAPLAN prompt, enter the value that associates the trigger with the corresponding index in table XLAPLAN.This field is mandatory.
4. In response to the RATEAREA prompt, enter the value that associates the trigger with the corresponding index in table RATEAREA.This field is mandatory.
5. In response to the primary interexchange carrier prompt, enter the name of the Primary Interexchange Carrier. It has a range of values corresponding to the tuple keys in table OCCNAME. In scenarios where no carrier is desired, the value NILC is used, denoting the equivalent of a NIL carrier.
6. In response to the local primary interexchange carrier prompt, enter the Local primary interexchange carrier. The local primary interexchange

carrier can have the same values as the primary interexchange carrier field defined in step 5.

7. In response to REDIR prompt, enter N or Y. The default value is N.
8. In response to the FWDATTR prompt, enter N or Y. The default value in N.
   a. If REDIR=’N’ and FWDATTR=Y go to step 9.
   b. If REDIR=’Y’ and FWDATTR=Y got to step 10.
9. When REDIR=’N’ and FWDATTR=Y then:
   a. In response to TCM prompt, enter a valid TCM value or ‘$’ for a nil value.

Note: A valid entry is any hexadecimal number other than an A or a B or a C. Hexadecimal A (decimal 10) is spare. Hexadecimal B (decimal 11) and hexadecimal C (decimal 12) are reserved.

   b. In response to CHARGE_NUMBER prompt, enter 3 to 15 digits or ’$’ for nil value.
10. When REDIR=’Y’ and FWDATTR=’Y’ then:
   a. In response to REDIR_REASON prompt, enter a valid redirecting reason. The redirecting reason can have the values, UNCOND, UNKNOWN, BUSY, NOREPLY.
   b. In response to the REDIR_PARTY_ID prompt, enter the 3 to 15 digits or ‘$’ for a nil value. For PFC triggers, REDIR_PARTY_ID cannot take a nil value.
   c. In response to TCM prompt, enter a valid TCM value or ‘$’ for a nil value.

Note: A valid entry is any hexadecimal number other than an A or a B or a C. Hexadecimal A (decimal 10) is spare. Hexadecimal B (decimal 11) and hexadecimal C (decimal 12) are reserved.

   d. In response to CHARGE_NUMBER prompt, enter 3 to 15 digits or ’$’ for nil value.

In the trigger group provisioning interface, this functionality was provided by table PODPATTR. The warning provided in Figure 166 is displayed when a tuple is added, changed, or deleted from table PODPATTR and the office is subscribed to the trigger item provisioning interface.

Figure 166 Warning--Modify PODPATTR--inactive table

```
TABLE PODPATTR IS INACTIVE, AS THE OFFICE IS SUBSCRIBED
TO TRIGGER ITEMS.  USE LARP OPTION IN TABLE TRIGITM.
```

23.2.3 Step 3: Subscribing to trigger PFC

Use SERVORD to subscribe to an agent. The AINGRP field (trigger group name) determines the provisioning interface selection. When a trigger group name is datafilled, the trigger group provisioning interface is used. When the keyword TIID is datafilled, the trigger item provisioning interface is used.

From SERVORD, invoke command ADO to subscribe to an existing agent. The following steps describe the procedure:

1. In response to the SONUMBER prompt, enter $.
2. In response to the DN_OR_LEN prompt, enter an existing DN or LEN.
3. In response to the OPTION prompt, enter AIN.
4. In response to the AINGRP prompt, enter TIID.
5. In response to the TIASGN prompt, enter 4 to specify the Info_Analyzed TDP.
6. In response to the TINAME prompt, enter the eight-character alphanumeric string of a valid trigger item in Table TRIGITM.
7. In response to the TRIGACT prompt, enter ON or OFF for the trigger activation state.
8. In response to the OPTION prompt, enter $ to indicating trigger item assignments are complete.

Table IBNFEAT stores subscriptions to AIN for RES and IBN lines.

Similar to Table IBNFEAT, Table KSETFEAT is used to store the subscription to AIN for EBS lines and MFT terminals.

> ***Note:*** All modifications to the IBNFEAT and KSETFEAT tables must be performed with SERVORD.

Table 326 summarizes datafill requirements for the PFC trigger type.

Table 326 Trigger definition and subscription tables for the PFC trigger type

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Subscription tables	Option	SERVORD
INFOANAL	PFC	CT	TRIGITM	Line (RES)	IBNFEAT	AIN	YES
		DG (M)		Line (ISDN)	KSETFEAT		

23.2.4 Step 4: Datafilling tables IBNXLA or XLANAME

The PFC feature code can be defined in tables IBNXLA or XLANAME, under the AIN feature selector. See Section 25.2.2.2 “Step 2: Datafilling table IBNXLA or table XLANAME” on page 718 and its subsections, that include a full description of the off-board processor (AIN) VSC.

The PFC feature access code variant requires NORMal, VARiable or FIXED digit collection, and it is recommended that digits be reported to the CC individually. The RPT selector is required in table DIGCOL when the first digit dialed is the first digit in a PFC feature access code.

23.2.5 Verifying with TRAVER

This section provides example TRAVER outputs.

23.2.5.1 Example for PFC trigger

When the datafill is correct and the trigger group provisioning interface is used, the TRAVER output should match the output provided in TRAVER 167.

When using the trigger item provisioning interface, the TRAVER output should match the output provided in TRAVER 168 on page 695.

Figure 167 Sample trigger group TRAVER output for trigger PFC

```
>TRAVER L 6136216138 B901 B
TABLE IBNLINES
HOST 02 0 14 14 0 DT STN RES 6216138 263 613_AIN2_263 L613_LATA1_0 613
(ACB)
    (AR) $
TABLE LINEATTR
263 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_AIN2_263 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_AIN2_263 FR01 613 AIN2 TOPS Y RESG263 0 0 $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
```

Figure 167 Sample trigger group TRAVER output for trigger PFC (Continued)

```
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
HOST 02 0 14 14 0 AIN AIN PFCTRIG
TABLE CUSTSTN
RESG263 AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
RESG263 0 0 0 RNCOS $
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
RESG263 NXLA RXCMN263 RXCFNXXX 0 RES
TABLE DIGCOL
RES specified: RES digit collection
NCOS FEAT XLA name is NIL. Go to next XLA name.
TABLE IBNXLA: XLANAME RXCFNXXX
RXCFNXXX 901 FTR 3 AIN IMMED
TABLE TRIGGRP
PFCTRIG INFOANAL
 . PODPFEAT ( DG PFCDIG)$ NIL
Trigger AIN PODPFEAT is applicable to individual RES or BRI line.
 .  . TABLE TRIGDIG
 .  . PFCDIG PODPFEAT B901 PODPFEAT EVENT TCAP R02 SS7 AINJAZZ DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 6136216138 6136216138 SSNONLY (AINTEST) $
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information


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

Figure 168 Sample trigger item TRAVER output for trigger PFC

```
>TRAVER L 6136216138 B901 B
```

Figure 168 Sample trigger item TRAVER output for trigger PFC (Continued)

```
TABLE IBNLINES
HOST 02 0 14 14 0 DT STN RES 6216138 263 613_AIN2_263 L613_LATA1_0 613
(ACB)
    (AR) $
TABLE LINEATTR
263 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_AIN2_263 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_AIN2_263 FR01 613 AIN2 TOPS Y RESG263 0 0 $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
HOST 02 0 14 14 0 AIN AIN TIID (4 PB901 ON) $
TABLE CUSTSTN
RESG263 AIN AIN TIID
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
RESG263 0 0 0 RNCOS $
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
RESG263 NXLA RXCMN263 RXCFNXXX 0 RES
TABLE DIGCOL
RES specified: RES digit collection
NCOS FEAT XLA name is NIL. Go to next XLA name.
TABLE IBNXLA: XLANAME RXCFNXXX
RXCFNXXX 901 FTR 3 AIN IMMED
Checking AIN PFC Trigger Items as PFC is compatible with current call
 .  . TABLE TRIGITM
 .  . 4 PB901 PFC (DG B901) $ ULK EVENT R02 SS7 AINJAZZ $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 6136216138 6136216138 SSNONLY (AINTEST) $
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
```

Figure 168 Sample trigger item TRAVER output for trigger PFC (Continued)

```
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information


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

23.2.5.2 PFC LARP

This section shows an example of a PFC trigger with overriding line attributes from a POTS line (DN 6136671001) dial B621. The call triggers and queries the database. The TRAVER output is shown in TRAVER 169 on page 697. It indicates the need to perform a second TRAVER as in TRAVER 170 on page 698 to get the output for response translations.

Figure 169, Example of TRAVER of PFC trigger with overriding line attributes

traver l 6631001 b621 b
TABLE IBNLINES
HOST 01 0 08 02 0 DT STN RES 6631001 200 613_P621_200 L613_LATA1_0 613 $
TABLE LINEATTR
200 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_200 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_200 FR01 613 P621 TSPS Y RESG200 0 0 $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
HOST 01 0 08 02 0 AIN AIN TIID (4 PFC_LARP ON) $
TABLE CUSTSTN
RESG200 AIN AIN CDPCODE
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
RESG200 0 0 0 RNCOS $
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
RESG200 NXLA RXCMN200 RESGSTAR 0 RES
TABLE DIGCOL
RES specified: RES digit collection
NCOS FEAT XLA name is NIL. Go to next XLA name.
TABLE IBNXLA: XLANAME RESGSTAR
TUPLE NOT FOUND
Default from table XLANAME:
RESGSTAR (FTR 3 AIN IMMED) $ 9
hecking AIN PFC Trigger Items as PFC is compatible with current call

Figure 169, Example of TRAVER of PFC trigger with overriding line attributes

```
 .  . TABLE TRIGITM
 .  . 4 PFC_LARP PFC (DG B621) $ ULK EVENT R02 SS7 AINPOP
 .  .     (LARP 101 613_P621_0 L613_LATA1_0 MCI GTE N N ) $
 .  .  . TABLE C7GTTYPE
 .  .  . AINPOP ANSI7 6 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINPOP 6136631001 6136631001 PCSSN (SIMTOOL_RTESET SIMTOOL3 0) $
SSN
WARNING: LARP option datafilled for PFC trigger. Perform
 a response TRAVER with LARP 4 PFC_LARP on  the command line
 after the AR response
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.

Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++

WARNING: LARP option datafilled for PFC trigger. Perform
 a response TRAVER with LARP 4 PFC_LARP on  the command line
 after the AR response

AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ TRAVER: SUCCESSFUL CALL TRACE +++

```

Figure 170, Example of TRAVER of output for response translations

```
>traver l 6631001 n cdn na 6136671002 ainres r02 ar larp 4 pfc_larp b
Warning: Routing characteristics are present.
 Originator must be able to send in
 characteristics specified.
WARNING: Line Attributes of Originator are being overridden
 by those provided by the LARP option from the
 corresponding tuple in TABLE TRIGITM
TABLE RTECHAR
 . LECNA (CDN NA $) ( BC 3_1KHZ (CDN NA)$)$
TABLE LINEATTR
101 1MR NONE NT 0 11 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_1 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
```

Figure 170, Example of TRAVER of output for response translations

```
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
TABLE PXLAMAP
 . LECNA P621 ( XLA P621)$
TABLE STDPRTCT
P621 ( 1) ( 0) 1
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 61366 61366 NT NP 0 NA $
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 939 2 ( 59) ( 1) ( 84) ( 0) 2 $
 . SUBTABLE HNPACODE
 . 6136671002 6136737100 HNPA 0
 . 667 667 DN 613 667
TABLE TOFCNAME
613 667 $
TABLE DNINV
613 667 1002 L HOST 01 0 02 02
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 44) OPTL N N Y
 . SUBTABLE LCASCR
 . 613 613
TABLE LCASCRCN
613 L613 ( 44) OPTL N N Y
```

Figure 170, Example of TRAVER of output for response translations

```
 . SUBTABLE LCASCR
 . 667 667
TABLE PFXTREAT
OPTL NP Y NP UNDT
Checking AIN PFC Trigger Items as PFC is compatible with current call
Checking AIN SDS Trigger Items as SDS is compatible with current call
Checking AIN N11 Trigger Items as N11 is compatible with current call
Checking AIN LNP Trigger Items as LNP is compatible with current call
AIN Info Analyzed TDP: trigger criteria not met.
AIN Term Attempt TDP: no subscribed trigger.

+++ TRAVER: SUCCESSFUL CALL TRACE +++

WARNING: Line Attributes of Originator are being overridden
 by those provided by the LARP option from the
 corresponding tuple in TABLE TRIGITM

DIGIT TRANSLATION ROUTES

1 LINE                  6136671002         ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

+++ TRAVER: SUCCESSFUL CALL TRACE +++

```

23.2.6 Sample datafill for trigger PFC

Table 328 illustrates sample datafill for trigger PFC.

Table 327 Table TRIGITM

TIID		Trigger	Criteria	State	Action	MsgSet	Transport	GTT	Option
TDP	NAME								
4	PODP TRG1	PFC	(DG B901)$	ULK	EVENT	R02	SS7	AIN JAZZ	LARP

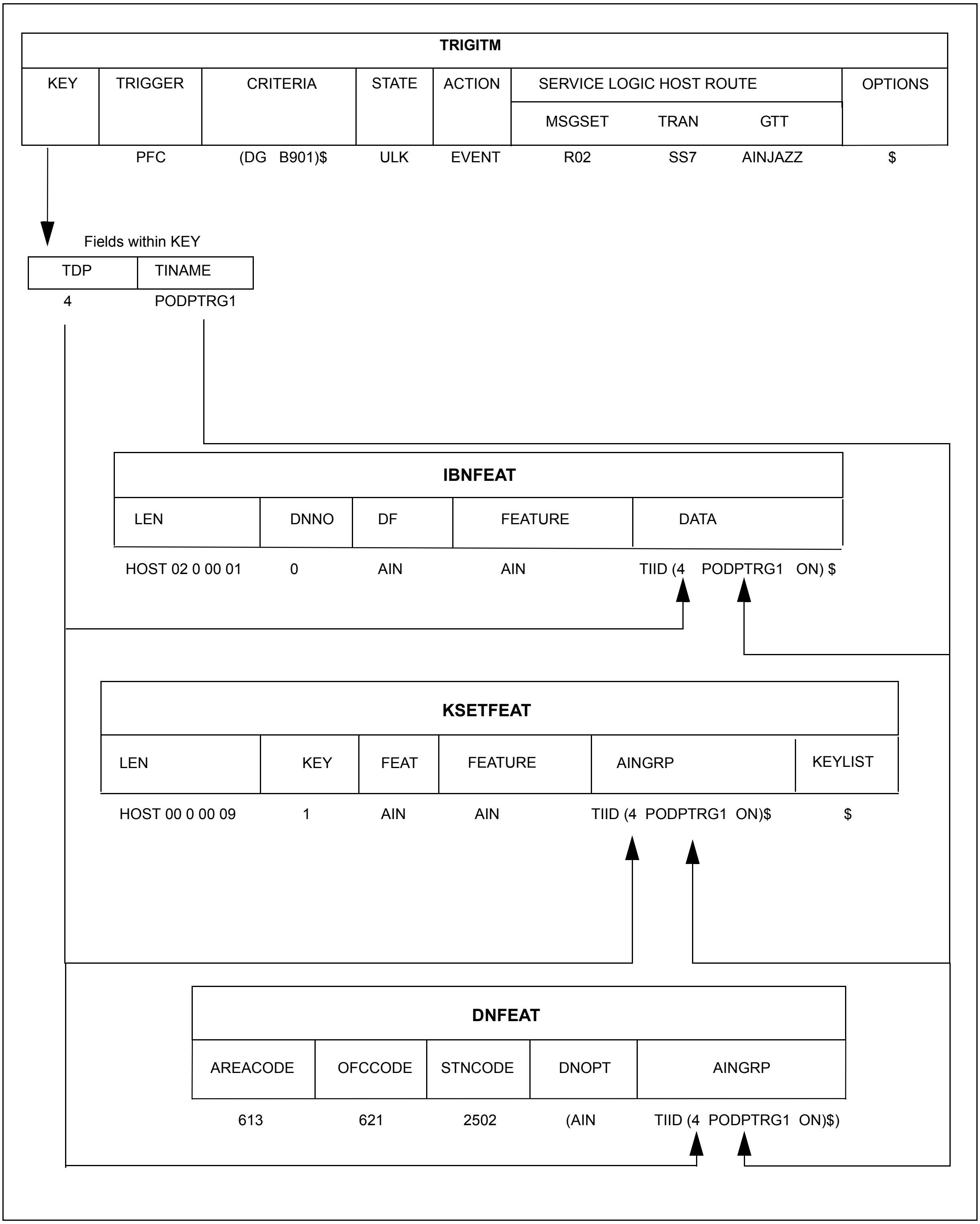
Table 327 illustrates sample datafill for subscribing trigger PFC.

Table 328 Table IBNFEAT

LEN	DNNO	DF	FEATURE	DATA
				AINGRP
HOST 02 0 00 01	0	AIN	AIN	TIID (4 PODPTRG1 ON) $

Figure 171 on page 701 illustrates datafill table dependencies.

Figure 171 Datafill table dependencies for trigger PFC

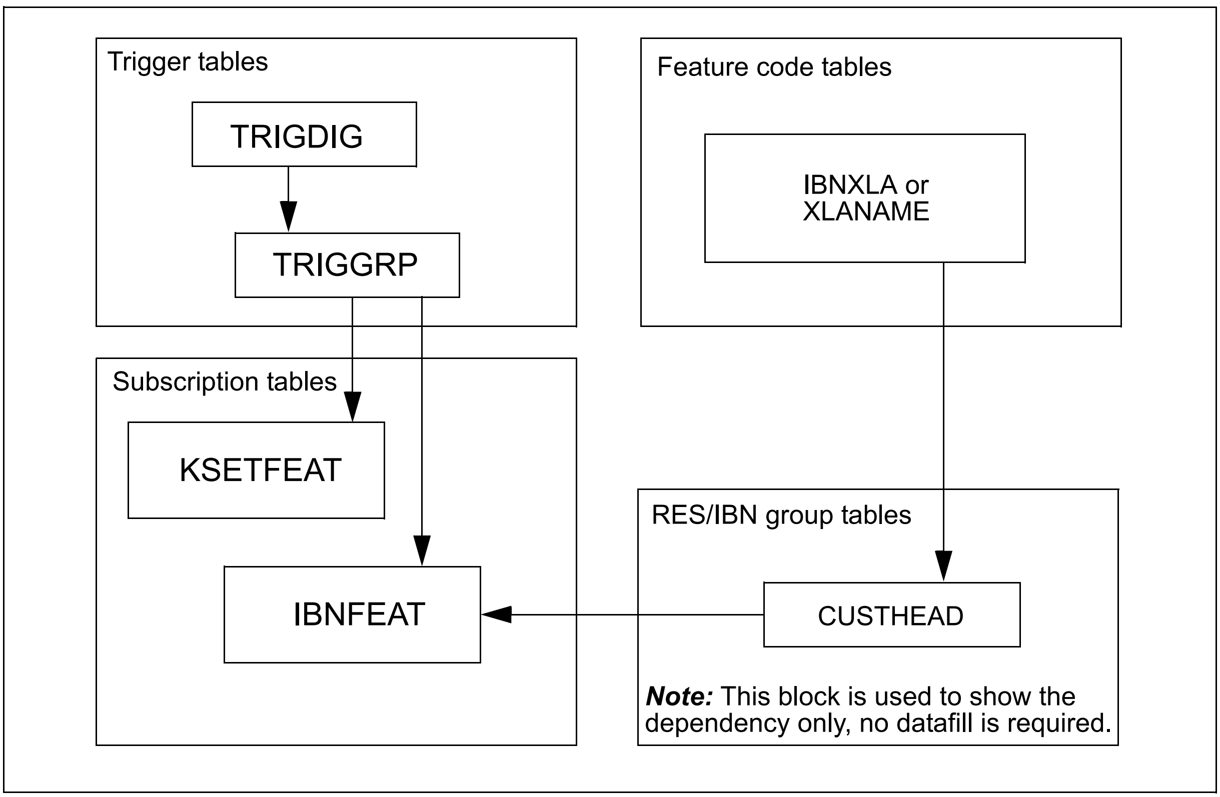


23.3 Trigger group provisioning interface

Before doing any datafill, the feature code must be determined. It includes the pattern of the starting digit and the number of the total digits for the feature code.

Figure 172 illustrates the datafilling hierarchy.

Figure 172 Datafilling hierarchy for PFC trigger



23.3.1 Step 1: Datafilling table TRIGDIG

The digits (DG) criterion is mandatory for the PFC trigger type. A DIGNAME must be datafilled in table TRIGDIG before it can be referenced from the table TRIGGRP to specify the digits criterion. A DIGNAME indicates addressing information, based on the dialed digits, and the action to be performed by the SSP when the digits criterion is met.

The KEY consists of three fields.

1. In response to the KEY prompt, enter a DIGNAME, such as FEATDIG, the TRIGGER, which is PODPFEAT, and the DIGITS for that trigger, such as B90.
2. In response to the TRIGGER prompt, enter PODPFEAT.

3. In response to the ACTION prompt, enter either EVENT or ESCAPE.
4. If you entered EVENT for the ACTION field, you will be prompted to datafill additional subfields. If you entered ESCAPE, you will not be allowed to datafill these fields.
   a. In response to the PROTOCOL prompt, enter TCAP.
   b. In response to the MSGSET prompt, enter R02 or R01.
   c. In response to the TRANSPRT prompt, enter SS7.
   d. In response to the GTT prompt, enter a global title translation (GTT) variable, such as AINJAZZ.
   e. In response to the GTSOURCE prompt, enter a GT source, such as DFLT.

Assumptions regarding the datafilling of the ACTION field in all triggering examples are described in Chapter 17: “Provisioning assumptions” on page 575. However, the ACTION field in table TRIGDIG can now contain an ESCAPE tuple. Figure 173 illustrates both the ESCAPE and EVENT options for the ACTION field.

Figure 173 ACTION field options in table TRIGDIG

TRIGDIG								
KEY	TRIGGER	ACTION						OPTIONS
		ACTION	PROTOCOL	MSGSET	TRAN	GTT	GTSOURCE	
	PODPFEAT	EVENT	TCAP	R02	SS7	AINJAZZ	DFLT	$
	PODPFEAT	ESCAPE						$

23.3.2 Step 2: Datafilling table TRIGGRP

An AINGRP that contains trigger PFC must be defined in table TRIGGRP before it can be referenced in any subscription tables or tools.

Table TRIGGRP is keyed on the trigger group name and TDP. The name for the AINGRP (up to 16 characters) must be created. The TDP for PFC trigger type must be INFOANAL.

The following is a summary of datafilling the TRIGDATA field.

1. In response to the KEY prompt, enter your AINGRP name, such as FEATTRIG, and INFOANAL, which is the TDP.
2. In response to the TRIGGER prompt, enter PODPFEAT.

3. In response to the CRITERIA prompt, the following criteria can be entered for the PFC trigger:
   a. Call Type (CT) criterion: This criterion is optional. At the CT prompt, enter VBINFO for voice or CMDATA for data. If the CT criterion is not specified, then both voice and data calls will trigger if all other criteria are satisfied.
   b. Digits (DG) criterion: This criterion is mandatory for the PFC trigger. When the DG criterion is specified, you are prompted for the DIGNAME. In response to the DIGNAME prompt, enter the DIGNAME you defined in Section 23.3.1 “Step 1: Datafilling table TRIGDIG” on page 702.

      When all desired criteria have been entered, enter $ at the CRITERIA prompt.
4. The INFONAME prompt is shown after the CRITERIA field is done. Enter NIL in INFONAME.
5. When you have entered all triggers to the group, enter $ at the TRIGGER prompt.

23.3.3 Step 3: Datafilling table IBNFEAT or KSETFEAT

Subscription to a PFC AINGRP is done on a individual basis by the AIN option. Currently, the agents supported by PFC are RES and ISDN BRI lines, so the subscription tuple should be added to table IBNFEAT and KSETFEAT respectively.

> ***Note:*** As table IBNFEAT is protected, the subscription to a RES line must be added using SERVORD. The guideline for adding an AIN trigger group to a RES line can be found in Section 16.1.1.1 “Adding the AIN option to POTS, MDC, and RES lines, or DISA DNs” on page 551.

23.3.4 Step 4: Datafilling table IBNXLA or table XLANAME

Table IBNXLA and XLANAME are also the translation tables for RES and IBN agents. The feature code of PFC can be either defined in table IBNXLA or XLANAME under the AIN feature selector. See Section 25.2.2.2 “Step 2: Datafilling table IBNXLA or table XLANAME” on page 718 and its subsections, which includes a full description about the off-board processor (AIN) VSC.

For the PFC feature access code variant which requires NORMal, VARiable or FIXED digit collection, it is recommended that digits be reported to the CC individually. The RPT selector is required in table DIGCOL if the first digit dialed is the first digit in a PFC feature access code.

23.3.5 Step 5: Verifying with TRAVER

Verify the datafill with the TRAVER utility.

Table 329 summarizes steps 1 to 4. It shows the trigger definition and subscription tables for the PFC trigger type.

Table 329 Trigger definition and subscription tables for PFC trigger type

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Subscription tables	Option	SERVORD
INFOANAL	PFC	DG (M)	TRIGDIG	Line (RES)	IBNFEAT	AIN	YES
		CT	TRIGGRP	Line (ISDN)	KSETFEAT		

23.3.6 PFC examples

The following example is given for the sole purpose of showing how to datafill and is not to be understood as recommended datafill.

23.3.6.1 Example 1: RES line

From a RES line (DN 6211611), dial VSC*901. The call triggers at the PFC trigger and queries the database because the line is subscribed to the PFC trigger and *901 is defined as the PFC VSC.

23.3.6.2 Sample datafill in table TRIGDIG

Table 330 shows the definition of DIGNAME PFC for the VSC *901.

Table 330 Sample DIGNAME FEATDIG definition in table TRIGDIG

KEY			TRIGGER	ACTION	OPTION
DIGNAME	TRIGGER	DIGITS			
FEATDIG	PODPFEAT	B901	PODPFEAT	EVENT TCAP R01 SS7 AINJAZZ DFLT	$

23.3.6.3 Sample datafill in table TRIGGRP

Table 331 shows a sample PFC AINGRP definition.

Table 331 Sample PFC AINGRP definition in table TRIGGRP

KEY		TRIGDATA		
TRIGNAME	TDP	TRIGGER	CRITERIA	INFONAME
FEATTRIG	INFOANAL	PODPFEAT	(DG FEATDIG)$	NIL

23.3.6.4 Sample datafill in table IBNFEAT

The originating agent is a RES line. The AIN trigger group FEATTRIG is assigned to the originating line using SERVORD. The guideline for adding an

AIN trigger group to a RES line can be found in Section 16.1.1.1 “Adding the AIN option to POTS, MDC, and RES lines, or DISA DNs” on page 551.

Figure 174 shows an example of how to assign the AIN trigger group FEATTRIG to a RES line.

Figure 174 Assigning AIN trigger group FEATTRIG to a RES line using SERVORD

```
>SERVORD
SO:
>ado $ 6212101 AIN FEATTRIG $
```

Table 332 shows a sample PFC AINGRP subscription.

Table 332 Sample PFC AINGRP subscription in SERVORD

KEY			FEATURE	DATA
LEN	DNNO	DF		
HOST 00 1 14 02	0	AIN	AIN	FEATTRIG

23.3.6.5 Sample datafill in table IBNXLA

The feature code for RES line is defined in table IBNXLA. The PFC VSC used by the PFC trigger is AIN specific. Table 333 shows a sample AIN VSC.

23.3.6.6 Result

Given the above datafill, from DN 6211611 (a RES line belonging to a RES group with RXCFNXXX as the XLANAME for the asterisk (*), *901 is dialed and the call triggers.

Table 333 Sample AIN VSC for PFC in table IBNXLA

KEY		RESULTS			
XLANAME	DGLIDX	TRSEL	NO_ACCODE_ DIGITS	FTR_TYPE	QUERYAFT
RXCFNXXX	901	FTR	3	AIN	IMMED

where:

RXCFNXXX— has been set to correspond to the feature codes with asterisk (*)
AIN— indicates this is a VSC for AIN feature
IMMED— indicates no subsequent digit collection is required

23.3.7 Verifying the datafill

Please refer to Section 22.15.2 , “TRAVER and the public feature code trigger,” on page 546.

24 Office_Public_Feature_Code trigger

24.1 General

The Office_Public_Feature_Code trigger (OFCPFC) is encountered when the dialed digits match the Vertical Service Code defined for that trigger item and the originating agent type is supported for OFCPFC trigger. The trigger OFCPFC is supported only for RES and ISDN BRI agents belonging to a RES group.

The OFCPFC trigger consists of the following functions:

- OFCPFC trigger detection and processing
- OFCPFC trigger Request message and processing
- Response processing

The OFCPFC trigger is detected when the dialed digits match the vertical service code defined for that trigger item. When the trigger is detected, a query is launched to the SCP requesting additional instructions for processing the call. Based on the valid response received from the SCP, the call will be processed further.

The following figure shows the functional behavior of the OFCPFC trigger.

Figure 175 OFCPFC trigger functional behavior diagram

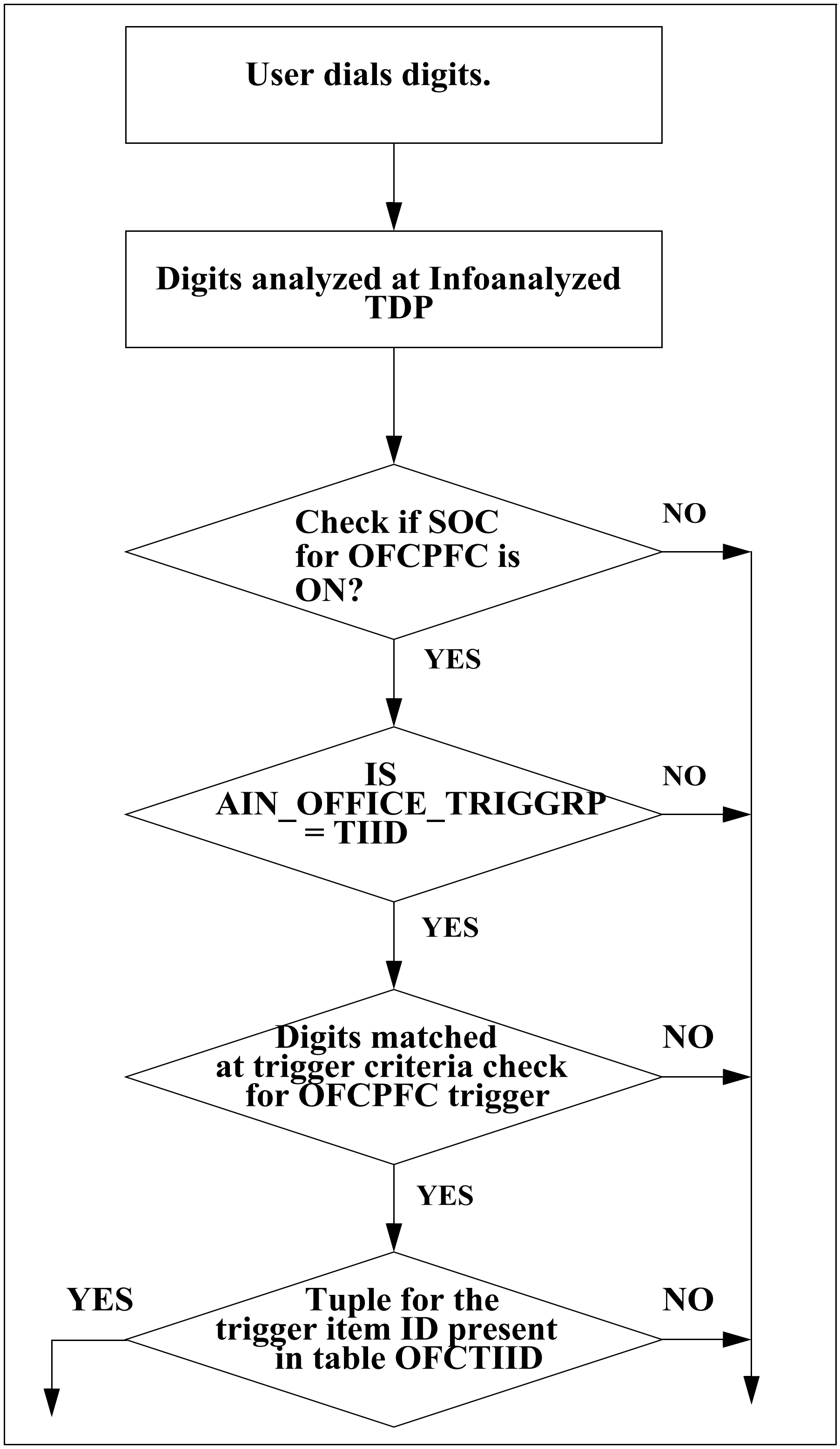
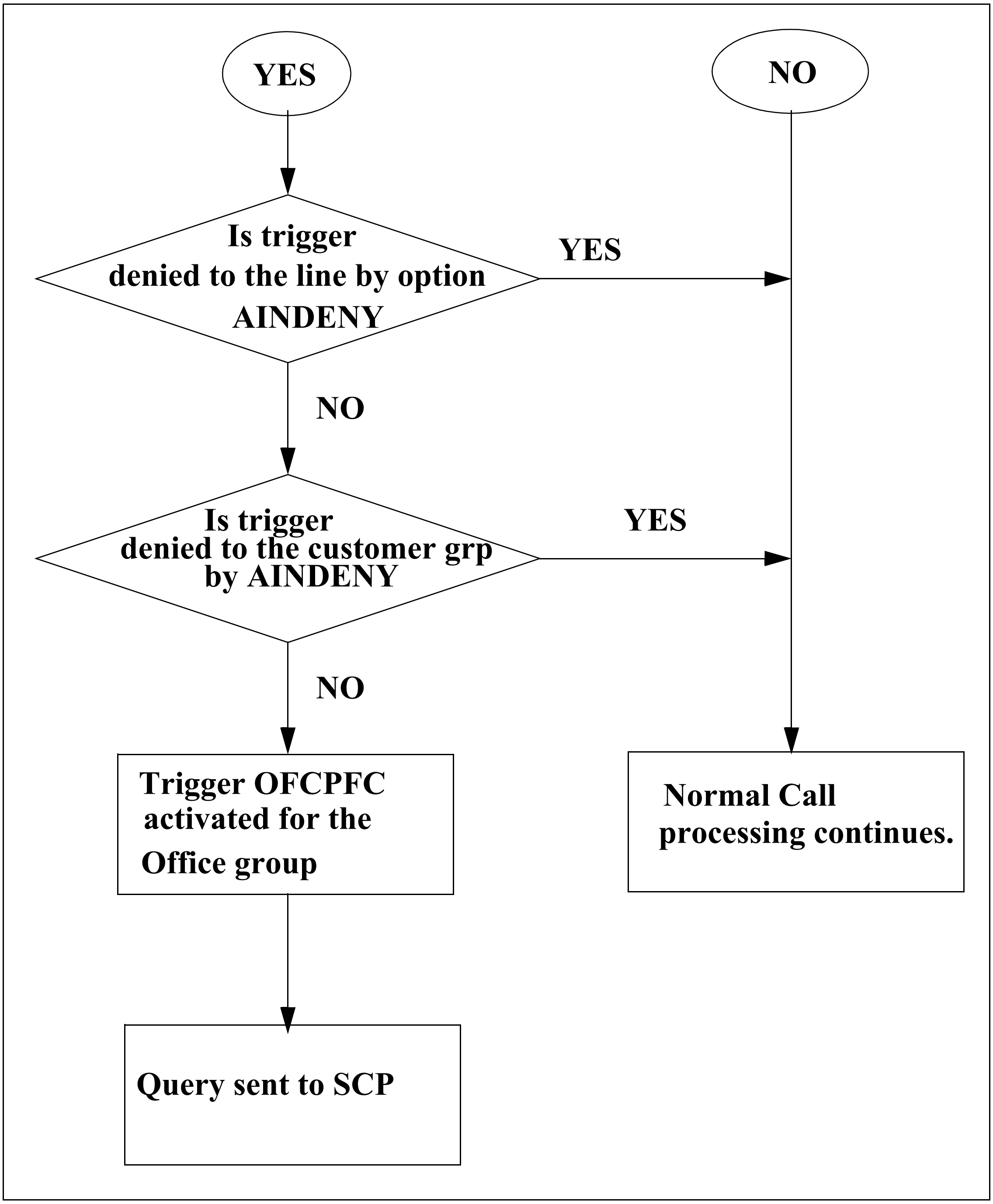


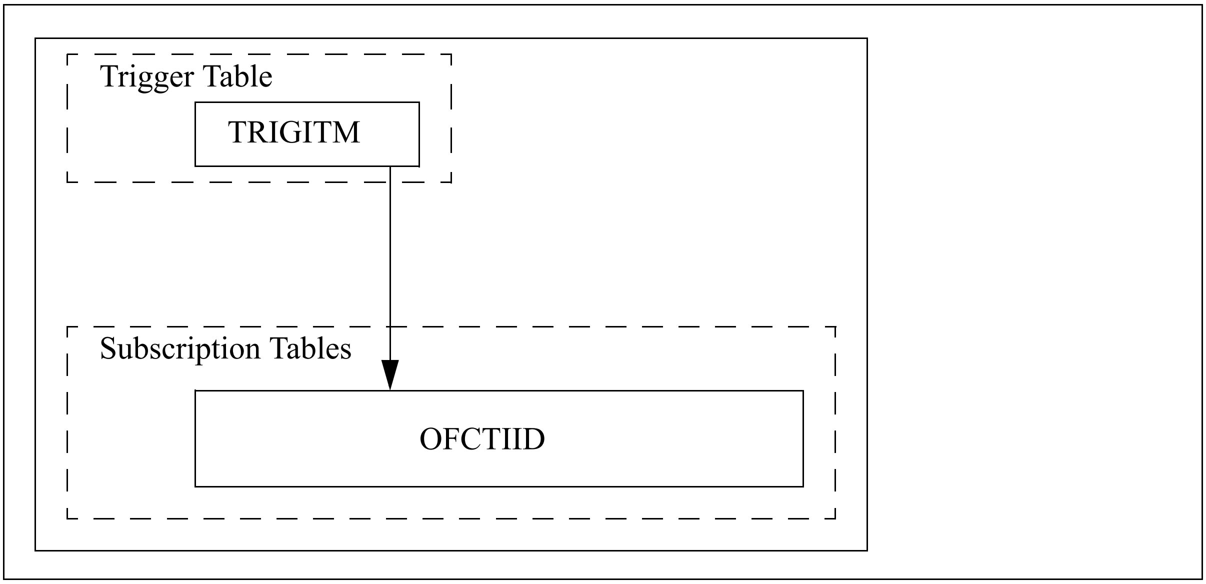
Figure 176 OFCPFC trigger functional behavior diagram (continued)



24.2 Trigger item provisioning interface

The datafill procedure required by the OFCPFC trigger is illustrated in the following figure.

Figure 177 Datafilling hierarchy for provisioning OFCPFC trigger



24.2.1 Step 1: Datafilling Table TRIGITM

The OFCPFC trigger type is digit-based and the trigger item action must be datafilled in Table TRIGITM. This information determines the action performed by the SSP when the criterion is satisfied.

1. In response to the TDP prompt, enter 4. This is the numeric code for the Info_Analyzed TDP.
2. In response to the TINAME prompt, enter the trigger item identifier, for example, OFCPFC1.
3. In response to the TRIGGER prompt, enter OFCPFC.
4. In response to the CRITERIA subfield prompts, enter any of the following for the OFCPFC trigger. When all desired criteria have been entered, type $ at the CRITERIA prompt.
   - Digits (DG) criterion: This criterion is mandatory for the OFCPFC trigger. In response to the DIGITS prompt, enter the digits to be matched against the feature code (VSC) dialed. Symbol B is used to represent * and symbol C is used to represent # in Table TRIGITM.
   - Call Type (CT) criterion: This criterion is optional. For voice, enter VBINFO. For data, enter CMDATA. When the CT criterion is not specified, both voice and data calls will trigger if all other criteria are satisfied.

5. In response to the STATE field, enter LK or ULK. LK locks, or disables, a trigger item. ULK unlocks, or enables, a trigger item.
6. In response to the ACTION prompt, type either EVENT or ESCAPE. EVENT instructs the SSP to launch a query when the trigger criterion has been satisfied. ESCAPE prevents a query from being launched. If EVENT is entered, the MsgSet, TRANSPORT, and GTT fields must be datafilled.
7. In response to the Service Logic Host Route (SLHR) subfield prompts, enter any of the following for the OFCPFC trigger:
    - In response to the MSGSET prompt, enter R02. R01 is not a valid message set for this trigger.
    - In response to the TRANSPORT prompt, enter SS7.
    - In response to the GTT prompt, enter a Global Title Translation variable, for example, AINJAZZ.
8. In response to the OPTION prompt, type LARP or $. No other options are valid for this trigger. If LARP is entered for the OPTION prompt, the following subfields must be datafilled:
    - LINEATTR
    - XLAPLAN
    - RATEAREA
    - PIC
    - LPIC
    - REDIR
    - FWDATTR

The following table shows a sample datafill for Table TRIGITM.

Table 334 Sample datafill for Table TRIGITM

TDP	TiName	Trigger	Criteria	State	Action	Msgset	Transport	GTT	Option
4	OFCPFC1	OFCPFC	DG	ULK	EVENT	R02	SS7	AINJAZZ	$

24.2.2 Step 2: Subscribing to trigger OFCPFC

Trigger OFCPFC can be subscribed on an office wide basis only. The subscription to OFCPFC trigger is done by datafilling Table OFCTIID. The following explains the process of datafilling Table OFCTIID:

1. Prompts for the KEY field consist of a TDP and a TINAME prompt
   - At the TDP prompt, enter 4 which is the numeric code for Infoanalyzed TDP.
   - At the TINAME prompt, enter the same identification name entered in item 2 of Section 24.2.1 “Step 1: Datafilling Table TRIGITM”.
2. In response to the TRIGACT prompt, enter ON to activate the assignment, or OFF to deactivate the assignment.

The following table shows a sample datafill for Table OFCTIID.

Table 335 Sample Datafill for Table OFCTIID

TDP	TINAME	TI_ACT
4	OFCPFC1	ON

24.2.3 Step 3: Datafilling Table OFCVAR

Subscriptions to OFCPFC trigger items are performed on an office basis. The trigger item provisioning interface is selected for office triggers with Table OFCVAR by datafilling parameter AIN_OFFICE_TRIGGRP with the value TIID.

Note: Changing Table OFCVAR requires setting RWOK to ON.

The following table shows a sample datafill for Table OFCVAR.

Table 336 Sample Datafill for Table OFCVAR

PARMNAME	PARMVAL
AIN_OFFICE_TRIGGRP	TIID

24.2.4 Step 4: Datafilling Tables IBNXLA or XLANAME

The OFCPFC feature code can be defined in Table IBNXLA under the AIN feature selector. Table IBNXLA recognizes the off-board processor Feature Access Code (FAC) variant, so that the SSP knows that this is an access code belonging to an off-board processor and may require subsequent digit collection. The OFCPFC feature access code variant requires NORMal, VARiable or FIXED digit collection.

An off-board processor FAC can be one to six digits long. The first digit can be an asterisk (* = B in Table TRIGITM) or an octothorpe (# = C in Table TRIGITM). If an asterisk or an octothorpe is the first character of the FAC, it should be removed, and the DGLIDX field datafilled with the remaining FAC digits. The NO_ACCODE_DIGITS field should be datafilled with the number of digits in the access code after the * or #. For example, when the off-board processor FAC *360 is dialed, the DGLIDX field in Table IBNXLA can be specified as 360 and NO_ACCODE_DIGITS is 3.

The following table shows a sample datafill for Table IBNXLA.

Table 337 Sample datafill for Table IBNXLA

KEY		RESULTS			
XLANAME	**DGLIDX**	**TRSEL**	**NO_ACCODE_DIGITS**	**FTR_TYPE**	**FTR_TYPE**
FTCOMM	360	FTR	3	AIN	IMMED
Where: FTCOMM has been set to correspond to feature access codes with asterisk (*). AIN: indicates this is a FAC for AIN feature IMMED: no subsequent digit collection is required					

24.2.5 Provisioning of the AINDENY option

24.2.5.1 Aindeny Line Option

The OFCPFC trigger feature modifies the AINDENY line option in two ways:

- Increases the number of entries that can be stored from 5 to 15
- Allows the restoration of individual triggers when all triggers of that type are denied

Under OFCPFC, the following entries would be allowed.

- AINDENY (DENY ALL PFC) (RESTORE TIID 4 PFC1)
- AINDENY (DENY ALL OFCPFC) (RESTORE TIID OFCPFC1) (RESTORE TIID OFCPFC2)

Only when a corresponding (DENY ALL) entry exists, will a (RESTORE TIID) be stored. When a corresponding (DENY TIID) entry exists and a (RESTORE TIID) is entered, the (DENY TIID) is removed.

The following details actions taken when a (RESTORE TIID) is one the line and the four relevant entries are entered.

- (DENY TIID) entered: the (RESTORE TIID) will be removed.
- (DENY ALL) entered: (DENY ALL) must be an existing entry because (RESTORE TIID) exists. An error message indicating duplicate entries is printed and the CHG or ADO is rejected.
- (RESTORE ALL) entered: the (DENY ALL) and the (RESTORE TIID) is deleted. When no more entries are left, the AINDENY option is removed.
- (RESTORE TIID) entered: this is a duplicate entry. An error message is printed and the CHG or ADO is rejected.

24.2.5.2 Denying office wide triggers per customer group

The operating company may deny particular office-wide triggers, such as OFCPFC, for individual customer groups. This is accomplished by datafilling Table CUSTSTN.

A new CUSTSTN option, ‘AINDENYG’, is created for OFCPFC. AINDENYG behaves like the AINDENY line option, but references customer groups instead of lines.

The following table shows sample datafill for Table CUSTSTN. As shown, two individual trigger IDs are denied to customer group RESGRP1. All triggers of the OFCPFC type are denied to group RESGRP2, and all triggers of type OFCPFC except trigger ID ‘4 OFCPFC1’ are denied to group RESGRP3.

Table 338 Sample Datafill for Table CUSTSTN

Cust Group	Option	Option Data
RESGRP1	AINDENYG	(DENY TIID OFCPFC1) (DENY TIID 4 OFCPFC2)
RESGRP2	AINDENYG	(DENY ALL OFCPFC)
RESFRP3	AINDENYG	(DENY ALL OFCPFC) (RESTORE 4 TIID OFCPFC1)

25 Customized_Dialing_Plan trigger

> **ATTENTION**
> Trigger CDP can be provisioned in two ways: either by using the trigger item or trigger group provisioning interface. A subscriber (office, customer group, or individual agent) can only subscribe to triggers defined by one provisioning interface, however, a call can encounter triggers provisioned in different provisioning interfaces at different subscription levels.

25.1 General

Trigger Customized_Dialing_Plan (CDP) occurs at the Info_ Analyze trigger detection point (TDP) in the originating basic call model (BCM).

Customer groups assigned to CDP can subscribe to the CDP trigger type, that has three feature access code variants: access code, extension or intercom number, or off-board processor feature access code (FAC) within a customized dial plan.

25.1.1 Access code

The CDP access code variant consists of an access code containing the digits dialed, to gain access to a private or public environment (for example, 9+ to access the public environment).

25.1.2 Intercom or extension code

The CDP intercom or extension code variant consists of an extension or intercom number.

25.1.3 The off-board processor FAC

The off-board processor FAC variant consists of the digits dialed to invoke a feature defined in the off-board processor. An FAC is one to six digits, and the first digit can be an asterisk (*) or an octothorpe (#).

To enable subsequent digit collection, a FAC can be provisioned to query immediately, query according to the normal dialing plan of the agent, collect a variable number of digits, or collect up to the fixed number of digits.

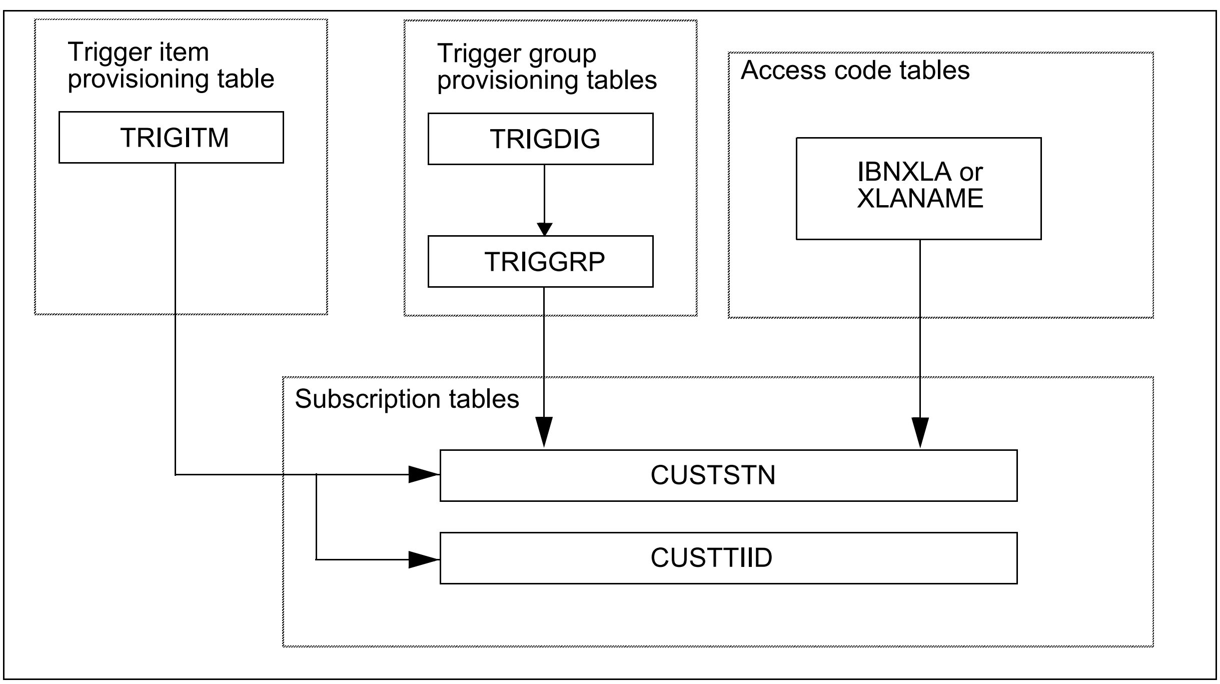
25.2 Access code datafill

This section covers the datafill for the access code variants, applicable to both the trigger item and trigger group provisioning interfaces. See Section 25.3 “Trigger item provisioning interface” on page 721 and Section 25.4 “Trigger group provisioning interface” on page 725.

Before implementing datafill, the feature access code variant must be determined. That is, the access code, extension or intercom number, or off-board processor FAC variant that is used in the call.

Figure 178 illustrates the datafill hierarchy for trigger CDP..

Figure 178 Datafilling hierarchy for trigger CDP



25.2.1 Datafill for populating LATA

> ***Note:*** The LATA in table NCOS takes precedence over the LATA in table CUSTSTN.

LATA parameter population is available for Centrex-originated calls. These agents do not have a line attribute (to pick up a LATA), therefore, it is retrieved from table NCOS or CUSTSTN.

These LATAs are for parameter population only. It is up to the customer to ensure the consistency between this LATA parameter and the LATA parameter used for post-query processing.

25.2.1.1 Step 1: Datafilling table CUSTSTN

For an IBN agent, the AINLATA option can be datafilled in table CUSTSTN under the agent's customer group.

25.2.1.1.1 Sample datafill for table CUSTSTN For this example, the originating IBN agent belongs to customer group COMKODAK. Table 339 shows a sample CDP AINLATA subscription.

Table 339 Sample CDP AINLATA datafilled in table CUSTSTN

KEY		OPTION
CUSTNAME	OPTNAME	
COMKODAK	AINLATA	AINLATA LATA1

25.2.1.2 Step 2: Datafilling table NCOS

Parameter LATA can be datafilled based on the IBN agent's network class of service. The AINLATA option is added to the NCOS index where the IBN agent attributes are determined.

25.2.1.2.1 Sample datafill for table NCOS The originating IBN agent belongs to customer group COMKODAK. Table 340 illustrates a sample CDP AINLATA subscription.

Table 340 Sample CDP AINLATA datafilled in table NCOS

KEY		NCOSNAME	LSC	TRAFSNO	OPTIONS
CUSTGRP	NCOS				
COMKODAK	0	KDK0	0	0	AINLATA LATA1

25.2.2 Datafill for triggering

25.2.2.1 Step 1: Datafill for table CUSTSTN

Subscription to a CDP AINGRP is performed on a group basis through the AIN option in table CUSTSTN. Use the table editor to enter subscriptions.

The originating agent's customer group can subscribe to a CDP AINGRP defined in Section 25.4.1 "Step 1: Datafilling table TRIGDIG" on page 725. Once a customer group is assigned an AINGRP and AIN is active in the office, triggers subscribed by the customer group apply to all agents that belong to that group. Usually, a customer group is assigned an AINGRP only once.

25.2.2.1.1 Sample datafill table CUSTSTN

The originating agent belongs to customer group COMKODAK. For calls to trigger at the CDP trigger, the AIN trigger group CDPTRIG is assigned to the customer group COMKODAK.

Table 341 illustrates a sample CDP AINGRP subscription.

Table 341 Sample CDP AINGRP subscription in table CUSTSTN

KEY		
CUSTNAME	**OPTNAME**	**OPTION**
COMKODAK	AIN	AIN CUSTTRIGGRP_CDP
COMKODAK	AIN	AIN TIID

Table 342 shows a sample CDP AINLATA subscription. The originating IBN agent belongs to customer group COMKODAK.

Table 342 Sample CDP AINLATA datafilled in table CUSTSTN

KEY		OPTION
CUSTNAME	**OPTNAME**	
COMKODAK	AINLATA	AINLATA LATA1

25.2.2.2 Step 2: Datafilling table IBNXLA or table XLANAME

Tables IBNXLA and XLANAME are meridian digital centrex (MDC) translation tables. Table XLANAME specifies the default translation and is used when no translation information is found in table IBNXLA. Either table IBNXLA or XLANAME must be datafilled to specify the access code with its required translation function.

25.2.2.2.1 Sample datafill table IBNXLA or XLANAME

For this examples, table IBNXLA defines the off-board processor FAC, the extension or intercom number, and the access code. A user should be able to derive the corresponding datafill for table XLANAME when default translation is desired.

> ***Note:*** Only the off-board processor FAC definition is AIN specific datafill. The definition of the extension number or access code are standard datafill.

25.2.2.2.2 Off-board processor FAC

Tables IBNXLA and XLANAME recognize the off-board processor FAC variant, so that the SSP knows that this is an access code belonging to an off-board processor, that can require subsequent digit collection.

An off-board processor FAC can be one to six digits long, and the first digit can be an asterisk (* = B in table TRIGDIG) or an octothorpe (# = C in table TRIGDIG). If an asterisk or an octothorpe is the first character of the FAC, then it should be removed and the DGLIDX field should be datafilled with the remaining FAC digits. The NO_ACCODE_DIGITS field should be datafilled as the number of digits in the access code after the * or #. For example, if the off-board processor FAC *360 is dialed, the DGLIDX field in table IBNXLA can be specified as 360 and NO_ACCODE_DIGITS is 3.

Table 343 shows a sample off-board processor FAC definition and Table 344 shows a sample datafill.

Table 343 Sample off-board processor FAC definition in table IBNXLA

KEY		RESULTS			
XLANAME	**DGLIDX**	**TRSEL**	**NO_ACCODE_DIGITS**	**FTR_TYPE**	**QUERYAFT**
FTCOMM	360	FTR	3	AIN	IMMED
Where: FTCOMM has been set to correspond to feature access codes with asterisk (*). AIN: indicates this is a FAC for AIN feature IMMED: no subsequent digit collection is required					
PXDK	7	FTR	1	AIN	VAR
Where: AIN— indicates this is a FAC for AIN feature (no asterisk) VAR— variable digit collection is required after the FAC is dialed					

Table 344 illustrates sample datafill for extension dialing.

Table 344 Sample datafill for extension (25027) dialing in table IBNXLA

KEY		RESULTS							
XLA NAME	**DGLI DX**	**TRS EL**	**SMD R**	**INTRAG RP**	**SNPA**	**NNX**	**DIG INEXT**	**FILL DIGS**	**EXT NOPTS**
CXDK	25	EXT N	N	Y	613	722	5	$	$

25.2.2.2.3 Intercom or extension number For the intercom or extension code variant, datafill either table IBNXLA or XLANAME in the same way as for a basic call.

> ***Note:*** TRSEL must be set to EXTN.

25.2.2.2.4 Access code For the access code variant, datafill table IBNXLA or XLANAME the same as for a basic call.

> ***Note:*** TRSEL must be set to ROUTE to go to a private trunk, or NET to go to a public environment.

Table 345 illustrates the TRSEL selector is set to NET for access code 880 and ROUTE for access code 885.

Table 345 Private environment translations (ROUTE selector)

KEY	XLNAME	PXDK
	DGLIDX	885
RESULTS	TRSEL	ROUTE
	ACR	N
	SMDR	N
	NO_ACCODE_DIGITS	3
	SECOND_DIAL_TONE	N
	MINDIGS	3
	MAXDIGS	15
	DGCOLNM	NDGT
	INTRAGRP	Y
	ROUTE_SUBSEL	S
	CLLI	AIN_DUMMY_TRUNK
	NETRTOPT	$

Table 346 outlines datafill fields and sample values for the public environment selection NET in table IBNXLA, that is used for POTS calls.

Table 346 Public environment translations (NET selector)

KEY	XLNAME	PXDK
	DGLIDX	880

Table 346 Public environment translations (NET selector) (Continued)

RESULTS	TRSEL	NET
	ACR	N
	SMDR	Y
	NO_ACCODE_DIGITS	3
	SECOND_DIAL_TONE	Y
	DGCOLNM	POTS
	CRL	Y
	INTRAGRP	N
	NETTYPE	DOD
	SMDRB	N
	LINEATTR	80
	TOLL_RESTRICTION	NONE
	OPTION	$

25.2.2.3 Step 3: Datafilling DIGCOL

For an off-board processor FAC variant, requiring NORMal, VARiable or FIXED digit collection, it is recommended that digits be reported to the CC individually. The RPT selector is required in table DIGCOL when the first digit dialed is the first digit in an FAC.

25.2.2.3.1 Sample datafill table DIGCOL Corresponding to the FAC 7 that was datafilled in table IBNXLA, table DIGCOL must be set up for report digits as shown in Table 347.

Table 347 DIGCOL datafill for FAC codes

DGKEY	DGDATA
KDK 7	RPT

25.3 Trigger item provisioning interface

Figure 178 on page 716 illustrates the datafill steps required by trigger CDP. Use table CUSTSTN to select the trigger item provisioning interface for trigger CDP. Section 25.2 “Access code datafill” on page 716 provides datafill instructions for the access code tables.

25.3.1 Step 1: Datafilling table TRIGITM

The CDP trigger type is digit based, and a trigger item identification name must be datafilled in table TRIGITM. This information indicates the action to be performed by the SSP when the digits criteria are met

1. In response to the TDP prompt, enter 4. This is the numeric code for the Info_Analyzed TDP.
2. In response to the TINAME prompt, enter the trigger item identifier you wish to use. For example, enter CDPTRIG1.
3. In response to the TRIGGER prompt, enter CDPCODE.
4. In response to the RPRTDIGS prompt, enter TRANS or NOTRANS.

   This action is used to indicate whether digit translation should be performed by the SSP on an extension number (only) before sending a query message. The TRANS and NOTRANS entries specify whether the SSP sends dialed digits or translated digits in the outgoing message to the off-board processor.
5. In response to the CRITERIA prompt, enter any of the following for the CDP trigger. When all desired criteria have been entered, type $ at the CRITERIA prompt.
   a. To specify a digits criterion, enter DG in response to the CRITERIA prompt. In response to the DIGITS prompt, enter the digits criteria. This criterion is mandatory for the CDP trigger.
   b. To specify a Call Type criterion, enter CT in response to the prompt. This criterion is optional. In response to the CALLTYPE prompt, enter VBINFO for voice or CMDATA for data. If the CT criterion is not specified, then both voice and data calls will trigger if all other criteria are satisfied.
6. In response to the STATE field, enter LK or ULK. LK locks (or disables) a trigger item; ULK unlocks (or enables) a trigger item.
7. In response to the ACTION prompt, type either EVENT or ESCAPE. EVENT instructs the SSP to launch a query when the trigger criterion has been satisfied. ESCAPE prevents a query from being launched for this trigger type. If you choose EVENT, you must datafill the MSGSET, TRANSPORT, and GTT fields. For the EVENT action, continue to step 8. For the ESCAPE action, skip to step 9.
8. In response to the service logic host route (SLHR) subfield prompts, enter any of the following for the CDPCODE trigger.

> ***Note:*** The SLHR subfield prompts, MSGSET, TRANSPORT and GTT apply to the EVENT action only and are not prompted for when ESCAPE is entered for the ACTION field.

a. In response to the MSGSET prompt, enter R02 or R01.

b. In response to the TRANSPORT prompt, enter SS7.

c. In response to the GTT prompt, enter a global title translation (GTT) variable. For example, AINJAZZ.

9. In response to the OPTION field prompt, enter $. There are no valid OPTIONS for trigger CDP.

25.3.1.1 Datafilling criteria in table TRIGITM

Table 348 illustrates the different methods to datafill CRITERIA. Assumptions regarding the datafilling of the ACTION information in the datafill examples are described in Chapter 17: “Provisioning assumptions” on page 575.

Table 348 Sample datafill criteria in table TRIGITM

KEY		TRIGGER	RPRTDIGS	CRITERIA
TDP	TINAME			
4	CDPTRIG1	CDPCODE	TRANS	(DG 613255) $
4	CDPTRIG2	CDPCODE	TRANS	(CT VBINFO) (DG 613255) $
4	CDPTRIG3	CDPCODE	TRANS	(CT CMDATA) (DG 613255) $

25.3.2 Step 2: Datafilling table CUSTTIID

Table CUSTTIID stores the trigger item assignments (subscriptions). Subscription to CDP occur on a per customer group basis only. To datafill table CUSTTIID, perform the following steps:

1. At the CUSTNAME prompt, enter the customer name.
2. At the TDP prompt, enter 4.
3. At the TINAME prompt, enter the same identification name you entered in item 2 of Section 25.3.1 “Step 1: Datafilling table TRIGITM” on page 722.
4. At the TRIGACT prompt, enter ON to activate the assignment, or OFF to deactivate the assignment.

Table 349 illustrates the trigger definition and subscription tables for the CDP trigger type.

Table 349 Trigger definition and subscription tables for the CDP trigger type

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Sub-scription tables	Option	SERVORD
INFOANAL	CDPCODE	CT DG (M)	TRIGITM	Group	CUSTSTN CUSTTIID	AIN	No
Note: M = mandatory							

25.3.3 Step 3: Datafill for table CUSTSTN

Table CUSTSTN indicates the trigger item provisioning interface is selected to datafill customer group triggers. To datafill table CUSTSTN, perform the following steps:

1. At the CUSTNAME prompt, enter the customer group name.
2. At the OPTNAME prompt, enter AIN.
3. At the OPTION prompt, enter AIN.
4. At the AINGRP prompt, enter TIID.

25.3.3.1 Step 1: Datafilling table CUSTSTN

For an IBN agent, the AINLATA option can be datafilled in table CUSTSTN under the agent's customer group.

25.3.3.1.1 Sample datafill for table CUSTSTN The originating IBN agent belongs to customer group COMKODAK. Table 350 shows a sample CDP AINLATA subscription.

Table 350 Sample CDP AINLATA datafilled in table CUSTSTN

KEY		OPTION
CUSTNAME	OPTNAME	
COMKODAK	AINLATA	AINLATA LATA1

25.3.4 Step 4: Verifying with TRAVER

Once the datafill has been set up for the CDP trigger, use TRAVER to verify the AIN triggering.

This section provides examples and the TRAVER output for each of the examples for the trigger item provisioning interface.

> ***Note:*** The order in the TRAVER output reflects the translation order, not the datafill order.

25.3.4.1 CDP Examples

This section contains example that show the CDP trigger in use.

25.3.4.1.1 Example 1: FAC From an MDC line (DN 7224011), dial FAC *360. The call triggers at CDP and queries the database because the customer group (COMKODAK) to which this MDC line belongs has subscribed to the CDP trigger.

25.3.4.1.2 Example 2: FAC "7" From an MDC line (DN 7224011), dial FAC 7 plus the digits (7234). The call triggers at CDP and queries the database because the customer group (COMKODAK) to which this MDC line belongs has subscribed to the CDP trigger.

25.3.4.1.3 Example 3: Extension dialing From an MDC line (DN 7224011), dial extension 25027. The call triggers at CDP and queries the database because the customer group (COMKODAK) to which this MDC line belongs has subscribed to the CDP trigger.

25.3.4.1.4 Example 4: Access code dialing and net selector
From an MDC line (DN 7224011), dial 880 + terminating DN 6210000 (where access code 880 is set up to go to a NET selector). The call triggers at CDP and queries the database because the customer group (COMKODAK) to which this MDC line belongs has subscribed to the CDP trigger.

25.3.4.1.5 Example 5: Access code dialing and route selector
From an MDC line (DN 7224011), dial 885 (where access code 885 is set up to go to a ROUTE selector). The call triggers at CDP and queries the database because the customer group (COMKODAK) to which this MDC line belongs has subscribed to the CDP trigger.

25.4 Trigger group provisioning interface

The following sections outline the steps required when datafilling for the trigger group provisioning model.

25.4.1 Step 1: Datafilling table TRIGDIG

The digits (DG) criterion is a mandatory one for the CDP trigger type. A DIGNAME must be datafilled in table TRIGDIG before it can be referenced from table TRIGGRP to specify the digits criterion. A DIGNAME indicates addressing information, based on dialed digits, and the action to be performed by the SSP when the digits criterion is met.

1. The key consists of the DIGNAME, TRIGGER, and DIGITS fields. In response to the KEY prompt, enter the following three fields
   a. For the DIGNAME, enter the DIGNAME to be used in table TRIGGRP.
   b. For the TRIGGER, enter CDPCODE to specify that trigger name to which the digits criterion applies.
   c. For the DIGITS, enter the digits to be matched against the digits dialed. A match is defined as the most specific match. For example, if the dialed digits are 8806210000 and the datafilled digits are 880, 88062 and 8806210000, the entry with the most specific digits 8806210000 matches.

      For the off-board FAC variant, you must dial the FAC itself; for example, *360. If the DIGITS field in table TRIGDIG is specified as B360, it matches the digits dialed. Symbol B is used to represent * and symbol C is used to represent # in table TRIGDIG.

      For the Intercom or Extension number, you must dial the intercom code or extension; for example, 2160000. If the DIGITS field in table TRIGDIG is specified as 2160000, it matches the digits dialed.

      For the Access Code, you might dial the Access Code followed by the terminating DN; for example, 8806210000, where 880 is the Access Code and 6210000 is the terminating DN. If the DIGITS field in table TRIGDIG is specified as 880, it matches the digits dialed. In fact, it matches all the CDP calls that use the 880 access code.
2. You are prompted for the TRIGGER field a second time. In response to the TRIGGER prompt, enter the CDPCODE. The value in this field must be the same as the trigger name used in the key field.
3. Because the trigger type is CDPCODE, you are prompted for the RPRTDIGS field, which is used to indicate whether digit translation should be performed by the SSP on an extension number (only) before sending a query message. The TRANS and NOTRANS entries specify whether the SSP sends dialed digits or translated digits in the outgoing message to the off-board processor.

Assumptions regarding the datafilling of the ACTION field in all triggering examples are described in Chapter 17: “Provisioning assumptions” on page 575.

25.4.1.1 Sample datafill for table TRIGDIG

Table 351 shows the definition of DIGNAME CDPDIG for the extension code number 25027, the access code 880 and 885, and the Feature Access Code

(FAC) *360 and 7. It also shows an example of the ESCAPE option for the ACTION field.

Table 351 Sample DIGNAME CDPDIG definition in table TRIGDIG

KEY			TRIGGER			OPTION
DIGNAME	TRIGGER	DIGITS	TRIGGER	RPRTDIGS	ACTION	
CDPDIG	CDPCODE	25027	CDPCODE	NOTRANS	EVENT TCAP R02 SS7 AINROCK DFLT	$
CDPDIG	CDPCODE	880	CDPCODE	TRANS	EVENT TCAP R02 SS7 AINROCK DFLT	$
CDPDIG	CDPCODE	885	CDPCODE	TRANS	EVENT TCAP R02 SS7 AINROCK DFLT	$
CDPDIG	CDPCODE	B360	CDPCODE	TRANS	EVENT TCAP R02 SS7 AINROCK DFLT	$
CDPDIG	CDPCODE	7	CDPCODE	TRANS	EVENT TCAP R02 SS7 AINROCK DFLT	$
CDPDIG2	CDPCODE	222	CDPCODE	TRANS	ESCAPE	$

25.4.2 Step 2: Datafilling table TRIGGRP

An AINGRP that contains the CDP trigger must be defined in table TRIGGRP before it can be referenced in any subscription table.

Table TRIGGRP is keyed on the trigger group name and TDP. You must create a name for the AINGRP (up to 16 characters). The TDP for CDPCODE trigger type must be INFOANAL.

1. In response to the TRIGGER prompt, enter CDPCODE.
2. In response to the CRITERIA prompt, the following criteria can be entered for the CDPCODE trigger:
   - Call Type (CT) criterion: This criterion is optional. In response to the CALLTYPE prompt, enter VBINFO for voice or CMDATA for data. If the CT criterion is not specified, then both voice and data calls will trigger if all other criteria are satisfied.
   - Digits (DG) criterion: This criterion is mandatory for the CDPCODE trigger. When the DG criterion is specified, you are prompted for the DIGNAME. In response to the DIGNAME prompt, enter the DIGNAME you defined in Section 25.4.1 “Step 1: Datafilling table TRIGDIG” on page 725.

   When all desired criteria have been entered, enter $ at the CRITERIA prompt.

3. In response to the INFONAME prompt, enter NIL.
4. When al desired triggers have been entered, enter $ at the TRIGGER prompt.

Table 352 shows the trigger definition and subscription tables for the CDP trigger type.

Table 352 Trigger definition and subscription tables for the CDP trigger type

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Sub-scription tables	Option	SERVORD
INFOANAL	CDPCODE	CT DG (M)	TRIGGRP TRIGDIG	Group	CUSTSTN	AIN	No
Note: M = mandatory							

25.4.2.1 Sample datafill table TRIGGRP

Table 353 shows a sample CDP AINGRP definition.

Table 353 Sample CDP AINGRP definition in table TRIGGRP

KEY		TRIGDATA		
TRIGNAME	**TDP**	**TRIGGER**	**CRITERIA**	**INFONAME**
CDPTRIG	INFOANAL	CDPCODE	CT VBINFO DG CDPDIG $	NIL
CUSTTRIGGRP_CDP	INFOANAL	CDPCODE	DG CDPDIG $	NIL

25.4.2.2 Result

Given the above datafill, from DN 7224011 (an IBN line belonging to the customer group COMKODAK), you can dial the extension number 25027 (or access code 880, or access code 885, or FAC *360, or FAC 7) and the call triggers.

25.4.3 Step 3: Verifying with TRAVER

Once the datafill has been set up for the CDP trigger, use TRAVER to verify the AIN triggering.

This section provides examples and the TRAVER output for each of the examples for the trigger group provisioning interface.

> ***Note:*** The order in the TRAVER output reflects the translation order, not the datafill order.

25.4.3.1 CDP examples

These examples are given for the sole purpose of showing how to datafill and are not to be understood as recommended datafill.

25.4.3.1.1 Example 1: FAC From an MDC line (DN 7224011), dial FAC *360. The call triggers at the CDP and queries the database because the customer group (COMKODAK) that this MDC line belongs to has subscribed to trigger CDP. TRAVER 179 provides the trigger group provisioning interface example 1, and TRAVER 180 on page 730 provides the trigger item provisioning interface example 1.

Figure 179 Sample TRAVER output for CDP (example 1) (FAC)

```
>TRAVER L 6137224011 B360 B
TABLE IBNLINES
HOST 00 0 02 18 0 DT STN IBN 7224011 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK STAR COL S 1
NCOS FEAT XLA name is NIL. Go to next XLA name.
TABLE IBNXLA: XLANAME FTCOMM
FTCOMM 360 FTR 3 AIN IMMED
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
 .  . TABLE TRIGDIG
 .  . CDPDIG CDPCODE B360 CDPCODE TRANS EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137224011 6137224011 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Analyzed TDP: trigger criteria met.
```

Figure 179 Sample TRAVER output for CDP (example 1) (FAC) (Continued)

```
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information


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

Figure 180 Sample TRAVER output for CDP (example 1) (FAC)

```
>TRAVER L 6137224011 B360 B
TABLE IBNLINES
HOST 00 0 02 18 0 DT STN IBN 7224011 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN TIID
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK STAR COL S 1
NCOS FEAT XLA name is NIL. Go to next XLA name.
TABLE IBNXLA: XLANAME FTCOMM
FTCOMM 360 FTR 3 AIN IMMED
Checking AIN CDPCODE Trigger Items as CDPCODE is compatible with current
call
 .  . TABLE CUSTTIID
 .  . COMKODAK 4 CB360 ON
 .  . TABLE TRIGITM
 .  . 4 CB360 CDPCODE TRANS (DG B360) $ ULK EVENT R02 SS7 AINROCK $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE IBNFEAT
```

Figure 180 Sample TRAVER output for CDP (example 1) (FAC) (Continued)

```
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137224011 6137224011 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
```

25.4.3.1.2 Example 2: FAC 7

From an MDC line (DN 7224011), dial FAC 7 plus the digits (7234). The call triggers at CDP and queries the database because the customer group (COMKODAK) to which this MDC line belongs has subscribed to the CDP trigger. TRAVER 181 provides the trigger group provisioning interface example 2, and TRAVER 182 on page 732 provides the trigger item provisioning interface example 2.

Figure 181 Sample TRAVER output for CDP (example 2) (FAC “7”)

```
>TRAVER L 6137224011 7234 B
TABLE IBNLINES
HOST 00 0 02 18 0 DT STN IBN 7224011 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 7 COL S 1
TABLE IBNXLA: XLANAME PXDK
PXDK 7 FTR 1 AIN VAR
```

Figure 181 Sample TRAVER output for CDP (example 2) (FAC “7”) (Continued)

```
AIN Info Collected TDP: no subscribed trigger.
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
 .  . TABLE TRIGDIG
 .  . CDPDIG CDPCODE 7 CDPCODE TRANS EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137224011 6137224011 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information


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

Figure 182 Sample TRAVER output for CDP (example 2) (FAC “7”)

```
>TRAVER L 6137224011 7234 B
TABLE IBNLINES
HOST 00 0 02 18 0 DT STN IBN 7224011 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN TIID
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
```

Figure 182 Sample TRAVER output for CDP (example 2) (FAC “7”) (Continued)

```
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 7 COL S 1
TABLE IBNXLA: XLANAME PXDK
PXDK 7 FTR 1 AIN VAR
AIN Info Collected TDP: no subscribed trigger.
Checking AIN CDPCODE Trigger Items as CDPCODE is compatible with current
call
 .  . TABLE CUSTTIID
 .  . COMKODAK 4 C7 ON
 .  . TABLE TRIGITM
 .  . 4 C7 CDPCODE TRANS (DG 7) $ ULK EVENT R02 SS7 AINROCK $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137224011 6137224011 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
```

25.4.3.1.3 Example 3: Extension dialing From an MDC line (DN 7224011), dial extension 25027. The call triggers at CDP and queries the database because the customer group (COMKODAK) to which this MDC line belongs has subscribed to the CDP trigger. TRAVER 183 provides the trigger group provisioning interface example 3, and TRAVER 184 on page 735 provides the trigger item provisioning interface example 3.

Figure 183 Sample TRAVER output for CDP (example 3)

```
>TRAVER L 6137224011 25027 B
TABLE IBNLINES
HOST 00 0 02 18 0 DT STN IBN 7224011 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
```

Figure 183 Sample TRAVER output for CDP (example 3) (Continued)

```
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 2 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 25 EXTN N Y 613 722 5 $ $
TABLE TOFCNAME
613 722 $
TABLE DNINV
613 722 5027 D BLDN
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE TMTCNTL
LNT ( 107)
 . SUBTABLE TREAT
 . BLDN Y T OFRT 50
 . TABLE OFRT
 .   50 S D VDN
 .      S D *OFLO
 .      S D LKOUT
 . EXIT TABLE OFRT
AIN Info Collected TDP: no subscribed trigger.
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
 .  . TABLE TRIGDIG
 .  . CDPDIG CDPCODE 25027 CDPCODE NOTRANS EVENT TCAP R02 SS7 AINROCK DFLT
$
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
```

Figure 183 Sample TRAVER output for CDP (example 3) (Continued)

```
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137224011 6137224011 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 184 Sample TRAVER output for CDP (example 3

```
>TRAVER L 6137224011 25027 B
TABLE IBNLINES
HOST 00 0 02 18 0 DT STN IBN 7224011 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN TIID
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 2 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 25 EXTN N Y 613 722 5 $ $
TABLE TOFCNAME
613 722 $
TABLE DNINV
613 722 5027 D BLDN
```

Figure 184 Sample TRAVER output for CDP (example 3 (Continued)

```
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE TMTCNTL
LNT ( 107)
 . SUBTABLE TREAT
 . BLDN Y T OFRT 50
 . TABLE OFRT
 .   50 S D VDN
 .      S D *OFLO
 .      S D LKOUT
 . EXIT TABLE OFRT
AIN Info Collected TDP: no subscribed trigger.
Checking AIN CDPCODE Trigger Items as CDPCODE is compatible with current
call
 .  . TABLE CUSTTIID
 .  . COMKODAK 4 C25027 ON
 .  . TABLE TRIGITM
 .  . 4 C25027 CDPCODE NOTRANS (DG 25027) $ ULK EVENT R02 SS7 AINROCK $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137224011 6137224011 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
```

25.4.3.1.4 Example 4: Access code dialing and net selector

From an MDC line (DN 7224011), dial 880 + terminating DN 6210000 (where access code 880 is set up to go to a NET selector). The call triggers at the CDP and queries the database because the customer group (COMKODAK) that this MDC line belongs to has subscribed to trigger CDP. TRAVER 185 provides the trigger group provisioning interface example 4, and TRAVER 186 on page 739 provides the trigger item provisioning interface example 4.

Figure 185 Sample TRAVER output for CDP (example 4) (access code 860)

```
>TRAVER L 6137224011 8806210000 B
TABLE IBNLINES
HOST 00 0 02 18 0 DT STN IBN 7224011 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 8 POTS Y
TABLE IBNXLA: XLANAME PXDK
PXDK 880 NET N Y 3 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 621 632 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
```

Figure 185 Sample TRAVER output for CDP (example 4) (access code 860) (Continued)

```
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 0000 D BLDN
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE TMTCNTL
LNT ( 107)
 . SUBTABLE TREAT
 . BLDN Y T OFRT 50
 . TABLE OFRT
 .   50 S D VDN
 .      S D *OFLO
 .      S D LKOUT
 . EXIT TABLE OFRT
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 621 623
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
KEY NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
TABLE FNPA7DIG
TUPLE NOT FOUND
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
 .  . TABLE TRIGDIG
 .  . CDPDIG CDPCODE 880 CDPCODE TRANS EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137224011 6137224011 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
```

Figure 185 Sample TRAVER output for CDP (example 4) (access code 860) (Continued)

```
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 186 Sample TRAVER output for CDP (example 4) (access code 860)

```
>TRAVER L 6137224011 8806210000 B
TABLE IBNLINES
HOST 00 0 02 18 0 DT STN IBN 7224011 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN TIID
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 8 POTS Y
TABLE IBNXLA: XLANAME PXDK
PXDK 880 NET N Y 3 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
```

Figure 186 Sample TRAVER output for CDP (example 4) (access code 860) (Continued)

```
DOCUMENTATION.
 . 621 632 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 0000 D BLDN
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE TMTCNTL
LNT ( 107)
 . SUBTABLE TREAT
 . BLDN Y T OFRT 50
 . TABLE OFRT
 .   50 S D VDN
 .      S D *OFLO
 .      S D LKOUT
 . EXIT TABLE OFRT
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 621 623
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
KEY NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
TABLE FNPA7DIG
TUPLE NOT FOUND
Checking AIN CDPCODE Trigger Items as CDPCODE is compatible with current
call
 .  . TABLE CUSTTIID
 .  . COMKODAK 4 C880 ON
 .  . TABLE TRIGITM
 .  . 4 C880 CDPCODE TRANS (DG 880) $ ULK EVENT R02 SS7 AINROCK $
```

Figure 186 Sample TRAVER output for CDP (example 4) (access code 860) (Continued)

```
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137224011 6137224011 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
```

25.4.3.1.5 Example 5: Access code dialing and route selector

From an MDC line (DN 7224011), dial 885 (where access code 885 is set up to go to a ROUTE selector). The call triggers at CDP and queries the database because the customer group (COMKODAK) to which this MDC line belongs has subscribed to the CDP trigger. TRAVER 187 provides the trigger group provisioning interface example 5, and TRAVER 188 on page 742 provides the trigger item provisioning interface example 5.

Figure 187 Sample TRAVER output for CDP (example 5) (access code 885)

```
>TRAVER L 6137224011 885 B
TABLE IBNLINES
HOST 00 0 02 18 0 DT STN IBN 7224011 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
```

Figure 187 Sample TRAVER output for CDP (example 5) (access code 885) (Continued)

```
KDK 8 POTS Y
TABLE IBNXLA: XLANAME PXDK
PXDK 885 ROUTE N N 3 N 3 15 NDGT Y S IBNOGTRK2 $
TABLE DIGCOL
NDGT specified: digits collected individually
AIN Info Collected TDP: no subscribed trigger.
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
 .  . TABLE TRIGDIG
 .  . CDPDIG CDPCODE 885 CDPCODE TRANS EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137224011 6137224011 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 188 Sample TRAVER output for CDP (example 5) (access code 885)

```
>TRAVER L 6137224011 885 B
TABLE IBNLINES
HOST 00 0 02 18 0 DT STN IBN 7224011 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN TIID
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
```

Figure 188 Sample TRAVER output for CDP (example 5) (access code 885) (Continued)

```
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 8 POTS Y
TABLE IBNXLA: XLANAME PXDK
PXDK 885 ROUTE N N 3 N 3 15 NDGT Y S IBNOGTRK2 $
TABLE DIGCOL
NDGT specified: digits collected individually
AIN Info Collected TDP: no subscribed trigger.
Checking AIN CDPCODE Trigger Items as CDPCODE is compatible with current
call
 .  . TABLE CUSTTIID
 .  . COMKODAK 4 C885 ON
 .  . TABLE TRIGITM
 .  . 4 C885 CDPCODE TRANS (DG 885) $ ULK EVENT R02 SS7 AINROCK $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137224011 6137224011 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
```

26. Specified_Carrier trigger

ATTENTION
Trigger Specified_Carrier can only be provisioned using the trigger item provisioning interface.

26.1 General

Trigger Specified_Carrier (SPECARR) occurs at the Info_Analyzed (INFOANAL) TDP in the originating basic call model (BCM). Operating company personnel can assign trigger Specified_Carrier to agents through individual subscription, group subscription, and office-wide subscription.

26.2 Datafilling steps

26.2.1 Trigger item provisioning interface

See Table 354 for trigger Specified_Carrier definitions and subscription information.

Table 354 Trigger Specified_Carrier definition and subscription table

Criteria	Definition table	Subscribe basis	Subscribe tables	Option	Servord
CT	TRIGITM	line (POTS)	LENFEAT	AIN	Yes
		line (MDC, RES)	IBNFEAT	AIN	Yes
		line (EBS, MFT)	KSETFEAT	AIN	Yes
		Trunk group	TRKGRP, TRKAIN	AIN	No
		customer group	CUSTSTN, CUSTIID	AIN	No
		office	OFCVAR, OFCTIID	AIN	No

26.2.1.1 Step 1: Datafilling table TRIGITM

Datafill the trigger item that contain the Specified_Carrier trigger identifier in table TRIGITM. The trigger item is later used to assign trigger Specified_Carrier to a specific agent.

The key in table TRIGITM consists of the following two items:

- the trigger detection point (TDP) identification number for trigger Specified_Carrier at the Analyze_Information TDP (use the number four)
- the trigger item name is a string of eight characters that uniquely identifies the trigger item

The Criteria field is an optional field. The following criteria are applicable for the trigger Operator Services:

- Call type (Voice or Data) criterion. When the criterion has not been entered during the detection phase, both voice and data calls encounter the trigger
- Escape Prefix (ESCPRFX) criterion. See Section 28.3 “ESCPRFX criterion for prefix triggers” for more details.

See Table 355 for a datafill example in table TRIGITM for trigger Specified_Carrier.

Table 355 Example of trigger Specified_Carrier definition in the TRIGITM table

TIID		Trigger	Criteria	State	Action	SLHR			Options
TDP	Name					msgset	transport	GTT	
4	SpeCarr	SpeCarr	$	ULK	Event	R02	SS7	AINPOP	$

26.2.1.2 Step 2: Line or trunk subscription

Trigger Specified_Carrier can be subscribed to the following lines or trunks:

- individual lines
- individual trunks
- groups
- the entire office

26.2.1.2.1 Subscribing an individual line Use the service order system (SERVORD) interface to assign trigger Specified_Carrier to a directory number (DN).

For a POTS line, SERVORD adds the subscription tuple to table LENFEAT. The following is an example of the command:

```
SERVORD> ado $ <orig_dn> AIN TIID 4 SPECARR ON $ $
```

26.2.1.2.2 Subscribing an ISDN BRI agent Use the service order system (SERVORD) interface to assign trigger Specified_Carrier to the LTID of the ISDN BRI agent.

For an ISDN BRI agent, SERVORD adds the subscription tuple to table KSETFEAT. The following is an example of the SERVORD command:

```
SERVORD> ado $ <LTID> AIN TIID 4 SPECARR ON $ $
```

26.2.1.2.3 Subscribing an individual trunk Use the table control interface to assign trigger Specified_Carrier to a trunk in table TRKAIN. An example of the required command is as follows:

```
CI> add <Incoming_ISUP_trk_clli> TIID 4 SPECARR ON $ $
```

26.2.1.2.4 Subscribing a group Use the table control interface to assign trigger Specified_Carrier to a customer group in tables CUSTIID and CUSTSTN.

First, assign an AIN TIID to the customer group in table CUSTSTN. Second, assign the TDP identification number (4) and the trigger item name defined in table TRIGITM to the customer group in table CUSTTIID.

An example of the required command for table CUSTSTN is as follows:

```
CI> add <customer_group_name> AIN TIID $
```

An example of the required command for table CUSTIID is as follows:

```
CI> add <customer_group_name> 4 SPECARR ON $ $
```

26.2.1.2.5 Subscribing an office Use the table control interface to assign trigger Specified_Carrier to the office-switch in tables OFCVAR and OFCTIID.

First, set the office variable AIN_OFFICE_TRIGGRP in table OFCVAR to TIID. Second, assign the TDP identification number (4) and the trigger item name defined in table TRIGITM to the office in table OFCTIID.

An example of the required commands for table OFCVAR is as follows:

```
CI> pos AIN_OFFICE_TRIGGRP
```

```
CI> cha AIN_OFFICE_TRIGGRP TIID $
```

An example of the required commands for table OFCTIID is as follows:

```
CI> add 4 SPECARR ON
```

26.2.2 Traver example

See Chapter 22: “Translation verification tool for AIN” on page 483.

27. One_Plus_Prefix trigger

> **ATTENTION**
> Trigger One_Plus_Prefix can only be provisioned using the trigger item provisioning interface.

27.1 General

Trigger One_Plus_Prefix (ONEPLUS) occurs at the Info_Analyzed (INFOANAL) TDP in the originating basic call model (BCM). Operating company personnel can assign trigger One_Plus_Prefix to agents through individual subscription, group subscription, and office-wide subscription.

27.2 Datafilling steps

27.2.1 Trigger item provisioning interface

See Table 356 for trigger Specified_Carrier definitions and subscription tables.

Table 356 Trigger Specified_Carrier definition and subscription table

Criteria	Definition table	Subscribe basis	Subscribe tables	Option	Servord
CT	TRIGITM	line (POTS)	LENFEAT	AIN	Yes
		line (MDC, RES)	IBNFEAT	AIN	Yes
		line (EBS, MFT)	KSETFEAT	AIN	Yes
		Trunk group	TRKGRP, TRKAIN	AIN	No
		customer group	CUSTSTN, CUSTIID	AIN	No
		office	OFCVAR, OFCTIID	AIN	No

27.2.1.1 Step 1: Datafilling table TRIGITM

Datafill the trigger item that contains trigger One_Plus_Prefix identifier in table TRIGITM. The trigger item is used later to assigned trigger One_Plus_Prefix to a specific agent.

The key of table TRIGITM consists of the following two items:

- the trigger detection point (TDP) identification number for trigger One_Plus_Prefix at the Analyze_Information TDP (use the number four)
- the trigger item name is a string of eight characters that uniquely identifies the trigger item

The Criteria field is an optional field. The following criteria are applicable for the trigger Operator Services:

- Call type (Voice or Data) criterion. When the criterion has not been entered during the detection phase, both voice and data calls encounter the trigger
- Escape Prefix (ESCPRFX) criterion. See Section 28.3 “ESCPRFX criterion for prefix triggers” for more details.

See Table 357 for an example of the datafill in table TRIGITM for trigger One_Plus_Prefix.

Table 357 Example of trigger Specified_Carrier definition in table TRIGITM

TIID		Trigger	Criteria	State	Action	SLHR			Options
TDP	Name					msgset	transport	GTT	
4	OnePlus	OnePlus	$	ULK	Event	R02	SS7	AINPOP	$

27.2.1.2 Step 2: Line or trunk subscription

Trigger One_Plus_Prefix can be subscribed to the following lines and trunks:

- individual lines
- individual trunks
- groups
- the entire office

27.2.1.2.1 Subscribing an individual line Use the service order system (SERVORD) interface to assign trigger One_Plus_Prefix to a directory number (DN).

For a POTS line, SERVORD adds the subscription tuple to table LENFEAT. An example of the command is as follows:

```
SERVORD> ado $ <orig_dn> AIN TIID4 ONEPLUS ON $ $
```

27.2.1.2.2 Subscribing an ISDN BRI agent Use the service order system (SERVORD) interface to assign trigger One_Plus_Prefix to the LTID of the ISDN BRI agent.

For an ISDN BRI agent, SERVORD adds the subscription tuple to table KSETFEAT. The following is an example of the SERVORD command:

```
SERVORD> ado $ <LTID> AIN TIID 4 ONEPLUS ON $ $
```

27.2.1.2.3 Subscribing an individual trunk Use the table control interface to assign trigger One_Plus_Prefix to a trunk in table TRKAIN. An example of the required command is as follows:

```
CI> add <InComing_PRA_trk_clli> TIID 4 ONEPLUS ON $ $
```

27.2.1.2.4 Subscribing a group Use the table control interface to assign trigger One_Plus_Prefix to a customer group in tables CUSTIID and CUSTSTN.

First, assign AIN TIID to the customer group in table CUSTSTN. Second, assign the TDP identification number (4) and the trigger item name defined in table TRIGITM to the customer group in table CUSTTIID.

An example of the required command for table CUSTSTN is as follows:

```
CI> add <customer_group_name> AIN TIID $
```

An example of the required command for table CUSTIID is as follows:

```
CI> add <customer_group_name> 4 ONEPLUS ON $ $
```

27.2.1.2.5 Subscribing an office Use the table control interface to assign trigger One_Plus_Prefix to the office-switch in tables OFCVAR and OFCTIID.

First, set AIN_OFFICE_TRIGGRP office variable in table OFCVAR to TIID. Second, assign the TDP identification number (4) and the trigger item name defined in table TRIGITM to the office in table OFCTIID.

An example of the required commands for table OFCVAR is as follows:

```
CI> pos AIN_OFFICE_TRIGGRP

CI> cha AIN_OFFICE_TRIGGRP TIID $
```

An example of the required commands for table OFCTIID is as follows:

```
CI> add 4 ONEPLUS ON
```

27.3 Traver example

See Chapter 22: “Translation verification tool for AIN” on page 483.

28 International trigger

28.1 General

Operating company personel can assign trigger International to agents through individual subscription, group subscription, and office-wide subscription. Trigger International can be datafilled even when SOC is idle.

Use only the DMS trigger item provisioning interface to provision trigger International.

28.2 Datafilling steps

28.2.1 Trigger item provisioning interface

See Table 358 for trigger International definitions and subscription tables.

Table 358 Trigger International definition and subscription table

Criteria	Definition table	Subscribe basis	Subscribe tables	Option	Servord
CT	TRIGITM	line (POTS)	LENFEAT	AIN	Yes
		line (MDC, RES)	IBNFEAT	AIN	Yes
		line (EBS, MFT)	KSETFEAT	AIN	Yes
		Trunk group	TRKGRP, TRKAIN	AIN	No
		customer group	CUSTSTN, CUSTIID	AIN	No
		office	OFCVAR, OFCTIID	AIN	No

28.2.1.1 Step 1: Datafilling table TRIGITM

Datafill the trigger item that contain the International trigger identifier in table TRIGITM. The trigger item is later used to assign trigger International to a specific agent.

The key in table TRIGITM consists of the following two items:

- the trigger detection point (TDP) identification number for trigger International at the Analyze_Information TDP (use the number four)
- the trigger item name is a string of eight characters that uniquely identifies the trigger item

The Criteria field is an optional field. The following criteria are applicable for the trigger Operator Services:

- Call type (Voice or Data) criterion. When the criterion has not been entered during the detection phase, both voice and data calls encounter the trigger
- Escape Prefix (ESCPRFX) criterion. See Section 28.3 "ESCPRFX criterion for prefix triggers" for more details.

See Table 359 for an example of the datafill in the TRIGITM table for trigger International.

Table 359 Example of trigger International definition in table TRIGITM

TIID		Trigger	Criteria	State	Action	SLHR			Options
TDP	Name					msgset	transport	GTT	
4	Interntl	Interntl	$	ULK	Event	R02	SS7	AINPOP	$

28.2.1.2 Step 2: Line or trunk subscription

Trigger International can be subscribed to the following lines and trunks:

- individual lines
- individual trunks
- groups
- the entire office

28.2.1.2.1 Subscribing an individual line IUse the service order system (SERVORD) interface to assign trigger International to a directory number (DN).

For a POTS line, SERVORD adds the subscription tuple to table LENFEAT. An example of the command is as follows:

```
SERVORD> ado $ <orig_dn> AIN TIID 4 INTERNTL ON $ $
```

28.2.1.2.2 Subscribing an ISDN BRI agent Use the service order system (SERVORD) interface to assign trigger International to the LTID of the ISDN BRI agent.

For an ISDN BRI agent, SERVORD adds the subscription tuple to table KSETFEAT. The following is an example of the SERVORD command:

```
SERVORD> ado $ <LTID> AIN TIID 4 INTERNTL ON $ $
```

28.2.1.2.3 Subscribing an individual trunk Use the table control interface to assign trigger International to a trunk in table TRKAIN. An example of the required command is as follows:

```
CI> add <Incoming_ISUP_trk_clli> TIID 4 INTERNTL ON
$ $
```

28.2.1.2.4 Subscribing a group Use the table control interface to assign trigger International to a customer group in tables CUSTIID and CUSTSTN.

First, assign AIN TIID to the customer group in table CUSTSTN. Second, assign the TDP identification number (4) and the trigger item name defined in table TRIGITM to the customer group in table CUSTTIID.

An example of the required command for table CUSTSTN is as follows:

```
CI> add <customer_group_name> AIN TIID $
```

An example of the required command for table CUSTIID is as follows:

```
CI> add <customer_group_name> 4 INTERNTL ON $ $
```

28.2.1.2.5 Subscribing an office Use the table control interface to assign trigger International to the office-switch in tables OFCVAR and OFCTIID.

First, set office variable AIN_OFFICE_TRIGGRP in table OFCVAR to TIID. Second, assign the TDP identification number (4) and the trigger item name defined in table TRIGITM to the office in table OFCTIID.

An example of the required commands for table OFCVAR is as follows:

```
CI> pos AIN_OFFICE_TRIGGRP
```

```
CI> cha AIN_OFFICE_TRIGGRP TIID $
```

An example of the required command for table OFCTIID is as follows:

```
CI> add 4 INTERNTL ON
```

28.3 Traver example

See Chapter 22: “Translation verification tool for AIN” on page 483.

29 Operator_Services trigger

ATTENTION
Trigger Operator_Services can only be provisioned using the trigger item provisioning interface.

29.1 General

Trigger Operator_Services (OPERSERV) occurs at the Info_Analyzed (INFOANAL) TDP in the originating basic call model (BCM). Operating company personnel can assign trigger Operator_Services to agents through individual subscription, group subscription, and office-wide subscription.

29.2 Datafilling steps

29.2.1 Trigger item provisioning interface

See Table 360 for trigger Operator_Services definitions and subscription information.

Table 360 Trigger Operator_Services definition and subscription table

Criteria	Definition table	Subscribe basis	Subscribe tables	Option	Servord
CT	TRIGITM	line (POTS)	LENFEAT	AIN	Yes
		line (MDC, RES)	IBNFEAT	AIN	Yes
		line (EBS, MFT)	KSETFEAT	AIN	Yes
		Trunk group	TRKGRP, TRKAIN	AIN	No
		customer group	CUSTSTN, CUSTIID	AIN	No
		office	OFCVAR, OFCTIID	AIN	No

29.2.1.1 Step 1: Datafilling table TRIGITM

Datafill the trigger item that contain the Operator_Services trigger identifier in table TRIGITM. The trigger item is later used to assigned trigger Operator_Services to a specific agent.

The key in table TRIGITM consists of the following two items:

- the trigger detection point (TDP) identification number for trigger Operator_Services at the Analyze_Information TDP (use the number four)
- the trigger item name is a string of eight characters that uniquely identifies the trigger item

The criteria field is an optional field. The following criteria are applicable for the trigger Operator Services.

- Call type (Voice or Data) criterion. When the criterion has not been entered during the detection phase, both voice and data calls encounter the trigger.
- Escape Prefix (ESCPRFX) criterion. See Section on ESCPRFX criterion for prefix triggers for more details.
- Escape digits (ESCDIG) criterion. This criterion is optional. The trigger is not encountered when the dialed digits (without the prefix) match any of the digits strings in the specified escape code list in table TIESCDIG. At the ESCGROUP prompt, enter a valid escape name from table TIESCDIG.

Datafilling table TIESCDIG: This table is used to specify digits required to escape the trigger. The key consists of two parts: ESCGRP and ESCDIGS. ESCGRP specifies the name of the group of escape codes.

- 1. At the ESCGRP prompt, type a name for the escape code, such as CRIT1.
- 2. At the ESCDIGS prompt, type the digits to escape the trigger, such as 911.

Table 361 Sample datafill for Table TIESCDIG

KEY	
ESCGRP	**ESCDIGS**
6136631001	622

See Table 362 for an example of the datafill in table TRIGITM for trigger Operator_Services.

Table 362 Example of Operator_Services trigger definition in the TRIGITM table

TIID		Trigger	Criteria	State	Action	SLHR			Options
TDP	**Name**					**msgset**	**transport**	**GTT**	
4	OperServ	OperServ	$	ULK	Event	R02	SS7	AINPOP	$

29.2.1.2 Step 2: Line or trunk subscription

Trigger Operator_Services can be subscribed to the following lines and trunks:

- individual lines
- individual trunks
- groups
- the entire office

29.2.1.2.1 Subscribing an individual line Use the service order system (SERVORD) interface to assign trigger Operator_Services to a directory number (DN).

For a POTS line, SERVORD adds the subscription tuple to table LENFEAT. An example of the command is as follows:

```
SERVORD> ado $ <orig_dn> AIN TIID 4 OPERSERV ON $ $
```

29.2.1.2.2 Subscribing an ISDN BRI agent Use the service order system (SERVORD) interface to assign trigger Operator_Services to the LTID of the ISDN BRI agent.

For an ISDN BRI agent, SERVORD adds the subscription tuple to table KSETFEAT. The following is an example of the SERVORD command:

```
SERVORD> ado $ <LTID> AIN TIID 4 OPERSERV ON $ $
```

29.2.1.2.3 Subscribing an individual trunk Use the table control interface to assign trigger Operator_Services to a trunk in table TRKAIN.

29.2.1.2.4 Subscribing a group Use the table control interface to assign trigger Operator_Services to a customer group in tables CUSTIID and CUSTSTN.

First, assign an AIN TIID to the customer group in table CUSTSTN. Second, assign the TDP identification number (4) and the trigger item name defined in table TRIGITM to the customer group in table CUSTTIID.

An example of the required command for the CUSTSTN table is as follows:

```
CI> add <customer_group_name> AIN TIID $
```

An example of the required command for the CUSTIID table is as follows:

```
CI> add <customer_group_name> 4 OPERSERV ON $ $
```

29.2.1.2.5 Subscribing an office Use the table control interface to assign trigger Operator_Services to the office-switch in tables OFCVAR and OFCTIID.

First, set office variable AIN_OFFICE_TRIGGRP of table OFCVAR to TIID. Second, assign the TDP identification number (4) and the trigger item name defined in table TRIGITM to the office in table OFCTIID.

An example of the required commands for the OFCVAR table is as follows:

```
CI> pos AIN_OFFICE_TRIGGRP

CI> cha AIN_OFFICE_TRIGGRP TIID $
```

An example of the required commands for the OFCTIID table is as follows:

```
CI> add 4 OPERSERV ON
```

29.3 ESCPRFX criterion for prefix triggers

ESCPRFX criterion is an optional criterion for all prefix triggers. The escape code associated with the ESCPRFX criterion is a key to a tuple in Table AINPRESC. This tuple contains the different digit patterns which can be escaped from triggering. Calls which have the same prefix pattern as that of the tuple escape triggering.

If no tuples are data filled in Table AINPRESC , the Prefix Escape Criteria ESCPRFX will show ¿NONE¿ as the escape code associated with it, in Table TRIGITM. Also Table TRIGITM does not accept NONE as the escape code associated with the prefix escape criteria. It displays, during datafill, a warning message conveying that Table AINPRESC is empty.

In the case of Carrier Calls, the PIC information associated with the call is considered as a CAC(Dialed Carrier of 101XXXX format) and the call is escaped from triggering as per the data in the tuple.

29.3.1 Datafilling Table AINPRESC

This table stores the information about the trigger to be escaped and the prefix digit patterns to be escaped from triggering. Table AINPRESC consists of the following:

- Key - which can be any 8 character text (alphanumeric) pattern except the default value NONE
- trigger type to be escaped
- the prefix patterns used by the trigger for escape.

29.3.2 Software optionality control

Software Optionality Control AIN Service Enablers Release 11, Pfx Pattern (AIN00311) controls criterion ESCPRFX functionality.

The ESCDIG criterion for OPERSERV trigger is also controlled by the AIN00311 SOC.

29.3.3 Limitations and restrictions

The following limitations/restrictions are associated with ESCPRFX criterion:

- For calls involving ISUP, PRI trunk originators, or calls invoving AIN response translations, zero minus calls are escaped for both 0M and 00M patterns datafilled in Table AINPRESC.
- For calls involving ISUP, PRI trunk originators, or calls invoving AIN response translations, zero minus calls with a carrier associated with it are escaped for both CAC0M and CAC00M patterns datafilled in Table AINPRESC.
- LEC calls are considered as non-carrier calls.

29.4 Traver example

See Chapter 22: “Translation verification tool for AIN” on page 483.

30 Specific_Digit_String trigger

> **ATTENTION**
> Trigger SDS can be provisioned in two ways: either by using the trigger item or trigger group provisioning interface. A subscriber (office, customer group, or individual agent) can only subscribe to triggers defined by one provisioning interface, however, a call can encounter triggers provisioned in different provisioning interfaces at different subscription levels.

30.1 General

The 3- to 10-digit Specific_Digit_String (SDS) trigger occurs at the Info_Analyzed (INFOANAL) TDP in the originating call model (OCM).

This trigger operates on an office basis and is applicable to any facility with access to the Public Office Dialing Plan (PODP).

In all cases, the number dialed is converted into a 10-digit national number and this number is then used to trigger. When the user dials 7 digits, the NPA is automatically added in front of the number so that the call triggers based on 10 digits. When the user dials 101XXX+1+10 digits, the carrier access code is stripped off, and the call triggers based on the 10 digits.

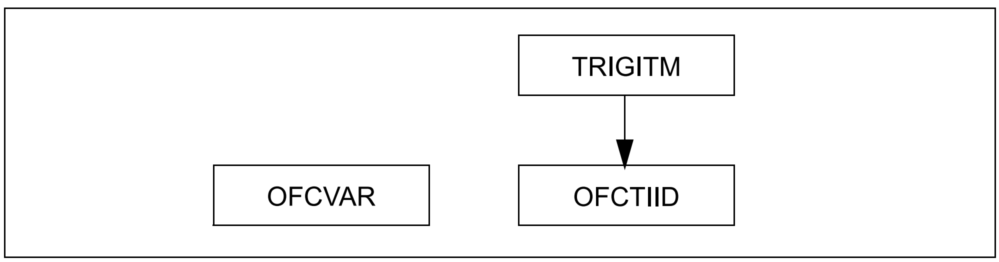
The triggering digit criterion is specified in 3- to 10-digit patterns, that is, NPA, NPAN, NPANX, NPANXX, NPANXXX, NPANXXXX, NPANXXXXX, and NPANXXXXXX. Only when the triggering number matches the digit criterion datafilled in the TRIGDIG or TRIGITM tables, does a call trigger. When the user is a private facility agent that dials a number in a private dial plan (for example, extension dialing), this trigger cannot be encountered. Similarly, when the user dials an international number, this trigger is not encountered. The number must be convertible into a national number format in order to trigger.

> ***Note 1:*** Overriding line attributes are optional, except when trigger SDS is used to implement AIN Service Enablers' toll-free service. See Chapter 51: "Datafilling for toll-free service" on page 1071.
>
> ***Note 2:*** In AIN Service Enablers, the Specific_Digit_String (SDS) trigger is equivalent to the PODP trigger in AIN Essentials. TRAVER and other provisioning tools can use the term PODP to refer to the AIN Service Enablers' SDS trigger.

30.2 Trigger item provisioning interface

Figure 189 assumes that the trigger item provisioning interface for trigger SDS has been selected with the OFCVAR table. Figure 189 illustrates the datafill steps required by trigger SDS.

Figure 189 Datafilling hierarchy for trigger SDS



30.2.1 Step 1: Datafilling table OFCVAR

Subscriptions to SDS trigger items are performed on an office basis. The trigger item provisioning interface is selected for office triggers with table OFCVAR by datafilling parameter AIN_OFFICE_TRIGGRP with the value TIID.

> ***Note:*** Changing table OFCVAR requires setting RWOK to ON.

30.2.2 Step 2: Datafilling table TRIGITM

The SDS trigger type is digit based, and a trigger item identification name must be datafilled in table TRIGITM. This information indicates the action to be performed by the SSP when the criterion is satisfied. To datafill TRIGITM, perform the following steps:

1. In response to the TDP prompt, enter 4. This is the numeric code for the Info_Analyzed TDP.
2. In response to the TINAME prompt, enter the trigger item identifier. For example, enter SDSTRIG1.
3. In response to the TRIGGER prompt, enter SDS.

4. In response to the CRITERIA prompt, enter any of the following for the SDS trigger. When all desired criteria have been entered, type $ at the CRITERIA prompt.

   a. To specify a digits criterion, enter DG in response to the CRITERIA prompt. In response to the DIGITS prompt, enter the digits criteria.

      For the SDS trigger type, the digits (DG) criterion is actually based on the translated digits, that is, the dialed digits that have been translated into the SDS format. For example, when the dialed digits are 16211171 and the called party has an NPA of 613, the digits to be entered for the digits criterion should be 6136211171. A match is defined as the most specific match. For example, when the dialed digits are 6137225998 and the trigger items with digits criteria of 613, 613722, and 6137225998 are subscribed, the entry with the most specific digits (that is, 6137225998) matches. For the SDS trigger type, a Continue (CONT) response might be received from the off-board processor. When a query is sent as a result of an SDS trigger and a Continue response message is received, the SSP matches on the next most specific digits (that is, 613722).

      Note: The digit criterion for the SDS trigger must be specified in 3 to 10 digit patterns, that is, NPA,NPAN,NPANX, NPANXX,NPANXXX,NPANXXXX,NPANXXXXX,NPANXX XXXX. Prefix digits and N11 codes are not supported as digit criterion for the SDS trigger.

   b. To specify an escape coin criterion, enter ESCCN in response to the prompt. The Escape Coin criterion is optional. In response to COIN_CALL_TYPE prompt, enter a coin-originated call type. Adding this criterion restricts that coin-originated call types (DD, OA, NP) will trigger.

   c. To specify an escape equal access criterion, enter ESCEA in response to the prompt. This criterion is optional. When specified, the SDS trigger will not trigger when the call is an Equal Access call.

   d. To specify an escape operator criterion, enter ESCOP in response to the prompt. This criterion is optional. When specified, the SDS trigger will not trigger when the call is going to an operator.

   e. To specify an escape GenericAddress present criterion, enter ESCGP in response to the prompt. This criterion is optional. When specified, the SDS trigger will not trigger when the call is the GenericAddress parameter is present.

   f. To specify a call type criterion, enter CT in response to the prompt. This criterion is optional. In response to the CALLTYPE prompt, enter VBINFO for voice or CMDATA for data. When the CT criterion is not specified, then both voice and data calls will trigger when all other criteria are satisfied.

5. In response to the STATE field, enter LK or ULK. LK locks (or disables) a trigger item; ULK unlocks (or enables) a trigger item.
6. In response to the ACTION prompt, type either EVENT or ESCAPE. EVENT instructs the SSP to launch a query when the trigger criterion has been satisfied. ESCAPE prevents a query from being launched for this trigger type. When choosing EVENT, datafill the MSGSET, TRANSPORT, and GTT fields. For the EVENT action, see step 7. Otherwise, see step 8.
7. In response to the service logic host route (SLHR) subfield prompts, enter any of the following for trigger SDS.

   Note: The SLHR subfield prompts MSGSET, TRANSPORT, and GTT apply to the EVENT action only and are not prompted for when ESCAPE is entered for the ACTION field.

   a. In response to the MSGSET prompt, enter R02 or R01.
   b. In response to the TRANSPORT prompt, enter SS7.
   c. In response to the GTT prompt, enter a global title translation (GTT) variable. For example, AINJAZZ.
8. The user is prompted for the OPTION field. This field is optional. When choosing ESCAPE at the ACTION prompt, the OPTION field cannot be datafilled (enter $). When all desired options have been entered, type $ at the OPTION prompt. When datafilling the OPTION field, the choices are:
   a. Potential use (POTUSE) option. This option is used to specify the service for that a particular tuple in table TRIGITM is being used.

      After entering POTUSE in the OPTION field, the user is prompted for the POTUSE field. Toll-free service is the only option that can be specified for trigger SDS. Enter TFS. When toll-free service is specified, the LARP option must be datafilled for this trigger.
   b. Default routing (DFLTRT) option.
   c. Line attribute response processing (LARP) option. This option provides post query processing for the trigger. When this option is not specified, the originator’s line attributes are used. See Section 30.2.3 “Step 3: Datafilling for line attribute response processing” on page 767 for more information on datafilling the LARP option.

30.2.2.1 Datafilling criteria in table TRIGITM

Table 363 shows the different ways the criteria can be datafilled.

Table 363 Sample datafill criteria in table TRIGITM

KEY		TRIGGER	CRITERIA
TDP	TINAME		
4	SDSTRIG1	SDS	(DG 613255) (ESCCN DD) (ESCGP) $
4	SDSTRIG2	SDS	(DG 613255) (ESCCN NP) (CT VBINFO) $
4	SDSTRIG3	SDS	(DG 613255) (ESCCN OA) CT CMDATA) $
4	SDSTRIG4	SDS	(DG 613255) (ESCCN DD_NP) $
4	SDSTRIG5	SDS	(DG 613255) (ESCCN DD_OA) $
4	SDSTRIG6	SDS	(DG 613255) (ESCCN OA_NP) $
4	SDSTRIG7	SDS	(DG 613255) (ESCCN ALL) $
4	SDSTRIG	SDS	(DG 613255) (ESCEA) (ESCOP)

30.2.3 Step 3: Datafilling for line attribute response processing

The line attribute response processing (LARP) option provides post query processing for triggers. This option allows overriding line attributes to be assigned against individual trigger items that replace the originator’s line attributes during response processing. When this option is not specified, the originator’s line attributes are used.

Overriding line attributes are defined by the following fields: LINEATTR, XLAPLAN, RATEAREA, primary interexchange carrier, and local primary interexchange carrier.

This functionality is available whether or not the switch has lines provisioned. The switch must be able to provision line attributes and trigger items in order to provide overriding line attributes for a trigger.

This functionality was enhanced in NA015. It now provides the operating companies the flexibility to let the response processing on a trigger having overriding line attributes to be treated as a re-direction or no re-direction with a field, REDIR. It also provides the operating company with control of overriding the forwarding attributes with a field, FWDATTR.

The redirection attribute is defined by the field REDIR. The forwarding attribute is controlled by the selector field FWDATTR and the forwarding attributes are defined by the following fields: REDIR_REASON, REDIR_PARTY_ID, TCM and CHARGE_NUMBER.

The following steps describe how to datafill the LARP option for a trigger item:

> ***Note:*** The following tables must be datafilled before the LARP option: LINEATTR, XLAPLAN, RATEAREA, OCCNAME, and OCCINFO.

1. Enter LARP at the OPTION prompt while datafilling the trigger item.
2. In response to the LINEATTR prompt, enter the value that associates the trigger with the corresponding index in table LINEATTR. This field is mandatory.
3. In response to the XLAPLAN prompt, enter the value that associates the trigger with the corresponding index in table XLAPLAN.This field is mandatory.
4. In response to the RATEAREA prompt, enter the value that associates the trigger with the corresponding index in table RATEAREA.This field is mandatory.
5. In response to the primary interexchange carrier prompt, enter the name of the Primary Interexchange Carrier. It has a range of values corresponding to the tuple keys in table OCCNAME. In scenarios where no carrier is desired, the value NILC is used, denoting the equivalent of a NIL carrier.
6. In response to the local primary interexchange carrier prompt, enter the Local primary interexchange carrier. The local primary interexchange

carrier can have the same values as the primary interexchange carrier field defined in step 5.

7. In response to REDIR prompt, enter N or Y. The default value is N.
8. In response to the FWDATTR prompt, enter N or Y. The default value in N.
   a. If REDIR='N' and FWDATTR=Y go to step 9.
   b. If REDIR='Y' and FWDATTR=Y got to step 10.
9. When REDIR='N' and FWDATTR=Y then:
   a. In response to TCM prompt, enter a valid TCM value or '$' for a nil value.

   Note: A valid entry is any hexadecimal number other than an A or a B or a C. Hexadecimal A (decimal 10) is spare. Hexadecimal B (decimal 11) and hexadecimal C (decimal 12) are reserved.

   b. In response to CHARGE_NUMBER prompt, enter 3 to 15 digits or '$' for nil value.
10. When REDIR='Y' and FWDATTR='Y' then:
   a. In response to REDIR_REASON prompt, enter a valid redirecting reason. The redirecting reason can have the values, UNCOND, UNKNOWN, BUSY, NOREPLY.
   b. In response to the REDIR_PARTY_ID prompt, enter the 3 to 15 digits or '$' for a nil value. For PFC triggers, REDIR_PARTY_ID cannot take a nil value.
   c. In response to TCM prompt, enter a valid TCM value or '$' for a nil value.

   Note: A valid entry is any hexadecimal number other than an A or a B or a C. Hexadecimal A (decimal 10) is spare. Hexadecimal B (decimal 11) and hexadecimal C (decimal 12) are reserved.

   d. In response to CHARGE_NUMBER prompt, enter 3 to 15 digits or '$' for nil value.

In the trigger group provisioning interface, this functionality was provided by table PODPATTR. The warning provided in Figure 190 is displayed when a tuple is added, changed, or deleted from table PODPATTR and the office is subscribed to the trigger item provisioning interface.

Figure 190 Warning--Modify PODPATTR--inactive table

```
TABLE PODPATTR IS INACTIVE, AS THE OFFICE IS SUBSCRIBED
TO TRIGGER ITEMS.  USE LARP OPTION IN TABLE TRIGITM.
```

30.2.4 Step 4: Datafilling table OFCTIID

Table OFCTIID stores the office-wide trigger item assignments subscriptions. Subscription to SDS occurs on an office-wide basis only. To datafill table OFCTIID, perform the following steps:

1. Prompts for the KEY field consist of a TDP and a TINAME prompt
   a. At the TDP prompt, enter 4.
   b. At the TINAME prompt, enter the same identification name entered in item 2 of Section 30.2.2 “Step 2: Datafilling table TRIGITM” on page 764.
2. In response to the TRIGACT prompt, enter ON to activate the assignment or OFF to deactivate the assignment.

30.2.5 Trigger definition and subscription tables for the SDS trigger type

Table 364 illustrates trigger definition and subscription tables for the SDS trigger type.

Table 364 Trigger definition and subscription tables for the SDS trigger type

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Sub-scription tables	Option	SERVORD
INFOANAL	SDS	CT DG (M) ESCCN ESCEA ESCOP ESCGP	TRIGITM	OFFICE	OFCTIID	N/A	NO

30.2.6 Verifying with TRAVER

Once the datafill has been set up for trigger SDS, use TRAVER to verify the AIN triggering.

> ***Note:*** When the LARP option is datafilled, two TRAVERs are performed to verify the trigger. The first TRAVER encounters trigger SDS with the overriding line attributes specified by the LARP option and a warning is displayed indicating a second TRAVER is required. For the second TRAVER to simulate the response processing, the customer selects the trigitm entry having the LARP option of the first TRAVER by entering the <TDP><TINAME> under the LARP option of the AIN Response Translation.

Figure 191 on page 772 illustrates the datafill for the following (four) examples. It illustrates the dependencies between the datafilling tables. Apply the instructions already outlined in steps 1 to 4 to add the sample tuples shown in Figure 191 on page 772 and verify the datafill with TRAVER.

Figure 191 Sample datafill for SDS examples using trigger item provisioning

TRIGITM

KEY		STATE	ACTION	SERVICE HOST LOGIC ROUTE			OPTIONS
				MSGSET	TRAN	GTT	
		ULK	EVENT	R02	SS7	AINJAZZ	$
		ULK	ESCAPE	R02	SS7	AINJAZZ	$
		ULK	EVENT	R02	SS7	AINJAZZ	$
		ULK	EVENT	R02	SS7	AINJAZZ	$
		LK	EVENT	R02	SS7	AINJAZZ	$
		ULK	EVENT	R02	SS7	AINJAZZ	

(LARP 55 613_P621_0 L613_LATA1_55 NILC NILC) $

TRIGGER	CRITERIA	
SDS	(DG	213255) $
SDS	(DG	2132551000) $
SDS	(DG	6136213611 CT CMDATA) $
SDS	(DG	613621) $
SDS	(DG	613) $
SDS	(DG	6136213003) $

Fields within KEY

TDP	TINAME
4	SDSTRIG1
4	SDSESC1
4	SDSTRIG2
4	SDSTRIG3
4	SDSTRIG4
4	S613621A

OFCTIID

TDP	TINAME	TRIGACT
4	SDSTRIG1	ON
4	SDSESC1	ON
4	SDSTRIG2	ON
4	SDSTRIG3	OFF
4	SDSTRIG4	ON
4	S613621A	ON

30.2.6.1 Example 1: PODP trigger
From an MDC line (DN 7223211), dial 92132551020 where 9 is a public environment access code. The call triggers at SDS on the digits 213255 and queries the database. Figure 192 on page 774 shows the TRAVER output.

30.2.6.2 Example 2: PODP escape
From an MDC line (DN 7223211), dial 92132551000 where 9 is a public environment access code. The call matches an ESCAPE trigger item (digits 2132551000) and escapes triggering at SDS. Figure 193 on page 776 shows the TRAVER output.

30.2.6.3 Example 3: criteria, assignment status, and administrative state code
This example illustrates the role of Criteria, Assignment Status, and Administrative State Code in the trigger item provisioning interface. POTS line (DN 6136216704) dials 6213611. The most specific matching trigger item assigned is SDSTRIG2 (digits 6136213611) but the CT criteria of CMDATA is not met because the call is a voice call.

The next most specific digit item assigned is SDSTRIG3. However, the call does not trigger because the activation status of the assignment to SDSTRIG3 (in table OFCTIID) is OFF.

The next most specific matching trigger item assigned is SDSTRIG4 (digits 613). However, The Administrative State Code of SDSTRIG4 is set to LK (locked). The call does not trigger and terminates on the dialed DN.

Figure 194 on page 778 illustrates the TRAVER output.

30.2.6.4 Example 4: SDS trigger with overriding line attributes
From a POTS line (DN 8196223111), dial 6136213003. The call triggers at SDS on the digits 6136213003 and queries the database. Overriding line attributes are on trigger SDS, and a second TRAVER with the AINRES option must be performed to simulate the response processing. For the second TRAVER to simulate the response processing, the customer selects the trigitm entry having the LARP option of the first TRAVER by entering the <TDP><TINAME> under the LARP optionof the AIN Response Translation. For the second TRAVER, the customer must select an originator with the same line attributes (LINEATTR, XLAPLAN, and RATEAREA) specified in the LARP option of the first TRAVER. Figure 195 illustrates the output of the first TRAVER. Figure 196 on page 781 illustrates the output of the second TRAVER.

30.2.6.5 TRAVER outputs

Figure 192 provides a sample TRAVER output for trigger SDS using the trigger item provisioning interface, (example 1).

Figure 192 TRAVER for trigger SDS using trigger item provisioning (example 1)

```
>TRAVER L 7223211 92132551020 B
TABLE IBNLINES
HOST 01 0 00 01 0 DT STN IBN 7223211 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 213 250 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
```

Figure 192 TRAVER for trigger SDS using trigger item provisioning (example 1) (Continued)

```
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 213 216 HNPA 0
 . 255 255 LRTE 766
 . SUBTABLE RTEREF
 .  766 S D ISUPTAC61_16
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL NP N DD UNDT
TABLE CLSVSCRC
KEY NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
Checking AIN SDS Trigger Items as SDS is compatible with current call
 .  . TABLE OFCTIID
 .  . 4 S213255 ON
 .  . TABLE TRIGITM
 .  . 4 S213255 SDS (DG 213255) $ ULK EVENT R02 SS7 AINJAZZ $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 2132551020 2132551020 SSNONLY (AINTEST) $
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 193 provides a sample TRAVER output for SDS escape code using the trigger item provisioning interface, (example 2).

Figure 193 TRAVER for SDS escape using trigger item provisioning (example 2)

```
>TRAVER L 7223211 92132551020 B
TABLE IBNLINES
HOST 01 0 00 01 0 DT STN IBN 7223211 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 213 250 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
```

Figure 193 TRAVER for SDS escape using trigger item provisioning (example 2) (Continued)

```
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 213 216 HNPA 0
 . 255 255 LRTE 766
 . SUBTABLE RTEREF
 .  766 S D ISUPTAC61_16
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL NP N DD UNDT
TABLE CLSVSCRC
KEY NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
Checking AIN SDS Trigger Items as SDS is compatible with current call
 .  . TABLE OFCTIID
 .  . 4 S213255A ON
 .  . TABLE TRIGITM
 .  . 4 S213255A SDS (DG 2132551000) $ ULK ESCAPE $
AIN Info Analyzed TDP: trigger criteria not met.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 ISUPTAC61_16          2132551000         ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

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

Figure 194 shows the TRAVER output for SDS trigger item provisioning, example 3.

Figure 194TRAVER for trigger item provisioning example 3: criteria, assignment status and administrative state code

```
>TRAVER L 6136216704 6213611 B
TABLE LINEATTR
0 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 621 632 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 3611 L HOST 00 1 01 03
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
```

Figure 194TRAVER for trigger item provisioning example 3: criteria, assignment status and administrative state code (Continued)

```
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 621 623
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
KEY NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
TABLE FNPA7DIG
TUPLE NOT FOUND
Checking AIN SDS Trigger Items as SDS is compatible with current call
 .  . TABLE OFCTIID
 .  . 4 SDSTRIG2 ON
 .  . TABLE TRIGITM
 .  . 4 SDSTRIG2 SDS (DG 6136213611) (CT CMDATA) $ ULK EVENT R02 SS7 AIN-
ROCK $
Not triggering due to criteria: CT
 .  . TABLE OFCTIID
 .  . 4 SDSTRIG3 OFF
 .  . TABLE TRIGITM
 .  . 4 SDSTRIG3 SDS (DG 613621) $ ULK EVENT R02 SS7 AINROCK $
 .  . TABLE OFCTIID
 .  . 4 SDSTRIG4 ON
 .  . TABLE TRIGITM
 .  . 4 SDSTRIG4 SDS (DG 613) $ LK EVENT R02 SS7 AINROCK $
AIN Info Analyzed TDP: trigger criteria not met.
AIN Term Attempt TDP: no subscribed trigger.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 LINE                  6136213611         ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

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

Figure 195 illustrates the output of the first TRAVER (part 1) and Figure 196 on page 781 illustrates the output of the second TRAVER (part 2).

Figure 195 Sample output for trigger SDS with overriding line attributes (part 1)

```
>traver l 8196223111 6136213003 b
```

Figure 195 Sample output for trigger SDS with overriding line attributes (part 1) (Continued)

```
TABLE LINEATTR
2 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 819_P622_2 L819_NILLA_2 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
819_P622_2 NSCR 819 P622 NONE N $ $
TABLE RATEAREA
L819_NILLA_2 L819 NIL NILLATA $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
P622 ( 1) ( 0) 1
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 613 633 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
819 Y 600 1 ( 32) ( 1) ( 79) ( 0) 0 $
 . SUBTABLE HNPACODE
 . 613 613 FNPA 0
TABLE FNPACONT
613 31 - ( 19) ( 0) ( 14)
 . SUBTABLE FNPACODE
 . 621 629 3 Y
 . SUBTABLE RTEREF
 .  .    3 N D COML_ISUPCAP2W 3 N N
 . EXIT TABLE RTEREF
EXIT TABLE FNPACONT
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
819 L819 ( 12) OPTL N N
 . SUBTABLE LCASCR
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL NP N DD UNDT
```

Figure 195 Sample output for trigger SDS with overriding line attributes (part 1) (Continued)

```
LATA IS NIL, THEREFORE NOT AN EQUAL ACCESS CALL
AIN Info Collected TDP: no subscribed trigger.
Checking AIN SDS Trigger Items as SDS is compatible with current call
 .  . TABLE OFCTIID
 .  . 4 S613621A ON
 .  . TABLE TRIGITM
 .  . 4 S613621A SDS (DG 6136213003) $ ULK EVENT R02 SS7 AINJAZZ
 .  .     (LARP 55 613_P621_0 L613_LATA1_55 NILC NILC) $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 6136213003 6136213003 SSNONLY (AINTEST) $
WARNING: LARP option datafilled for SDS trigger. Perform
         a response TRAVER with LARP 4 SDSLARP on the command line
         after the AR response.
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++

WARNING: LARP option datafilled for SDS trigger. Perform
         a response TRAVER with LARP 4 SDSLARP on the command line
         after the AR response.

AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 196 Sample output for trigger SDS with overriding line attributes (part 2)

```
>traver l 6136211358 n cdn na 6213003 aines r02 ar larp 4 sdslarp b
TABLE LINEATTR
55 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_LATA1_55 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_55 L613 OTWA LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
```

Figure 196 Sample output for trigger SDS with overriding line attributes (part 2) (Continued)

```
AIN_OFFICE_TRIGGRP TIID
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 621 632 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 3003 L HOST 00 0 04 05
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 621 623
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
KEY NOT FOUND
TABLE FNPA7DIG
TUPLE NOT FOUND
Checking AIN SDS Trigger Items as SDS is compatible with current call
 .  . TABLE OFCTIID
 .  . 4 S613621A ON
 .  . TABLE TRIGITM
 .  . 4 S613621A SDS (DG 6136213003) $ ULK EVENT R02 SS7 AINJAZZ
 .  .     (LARP 55 613_P621_0 L613_LATA1_55 NILC NILC) $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE C7GTT
```

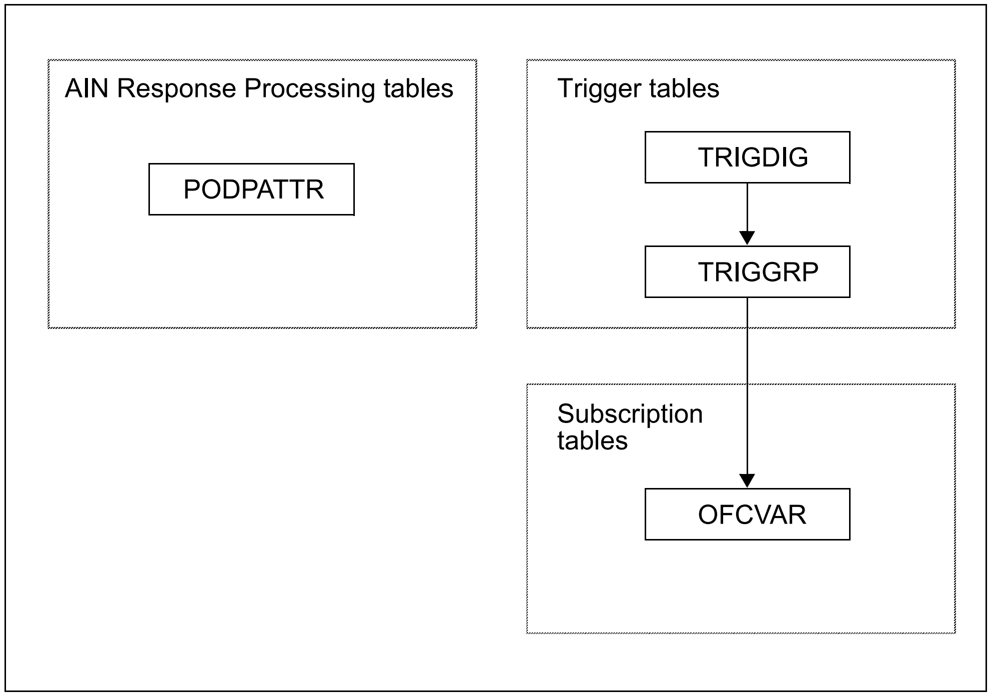
Figure 196 Sample output for trigger SDS with overriding line attributes (part 2) (Continued)

```
 .  .  . AINJAZZ 6136213003 6136213003 SSNONLY (AINTEST) $
WARNING: LARP option datafilled for SDS trigger. Perform
         a response TRAVER with LARP 4 SDSLARP on the command line
         after the AR response.
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++

WARNING: LARP option datafilled for SDS trigger. Perform
         a response TRAVER with LARP 4 SDSLARP on the command line
         after the AR response.

AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.

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

30.3 Trigger group provisioning interface

Figure 197 shows the datafilling steps required by the SDS trigger when using the trigger group provisioning interface.

Figure 197 Datafilling hierarchy for the SDS trigger



30.3.1 Step 1: Datafilling table TRIGDIG

The DG criterion is mandatory for the SDS trigger type. A DIGNAME must be datafilled in table TRIGDIG before it can be referenced from table TRIGGRP to specify the DG criterion. A DIGNAME indicates addressing information based on dialed digits and the action to be performed by the SSP when the criterion is satisfied.

1. The key consists of a DIGNAME, the trigger type, and the dialed digits. In response to the KEY prompt, enter the following fields:
   a. For the DIGNAME, enter the DIGNAME to be used in table TRIGGRP.
   b. For the TRIGGER, enter PODP to specify the trigger name to that the DG criterion applies.
   c. For the PODP trigger type, the DG criterion is actually based on the translated digits, that is, the dialed digits that have been translated into the PODP format. For example, when the dialed digits are 16211171, the digits to be entered in the DIGITS field should be 6136211171. A DG match is defined as the most specific match. For example, when the dialed digits are 6137225998 and the datafilled

digits are 613, 613722, and 6137225998, the entry with the most specific digits 6137225998 matches. For the PODP trigger type, a Continue (CONT) response might be received from the off-board processor. When a query is sent as a result of an SDS trigger and a Continue response message is received, the SSP examines the next most specific digits, 613722.

Note: The digit criterion for the PODP trigger must be specified in 3 to 10 digit patterns, that is, NPA,NPAN,NPANX, NPANXX,NPANXXX,NPANXXXX,NPANXXXXX,NPANXX XXXX. Prefix digits and N11 codes are not supported as digit criterion for the PODP trigger.

2. The TRIGGER field is prompted for a second time. In response to the TRIGGER prompt, enter the PODP. The value in this field must be the same as the trigger name used in the key field.
3. In response to the ACTION prompt, type either EVENT or ESCAPE. EVENT instructs the SSP to launch a query when the trigger criterion has been satisfied. ESCAPE prevents a query from being launched. When choosing EVENT, datafill the PROTOCOL, MSGSET, TRANSPRT, GTT, and GTSOURCE fields. See Step 4. When EVENT is chosen, skip to step 5.
4. In response to the Service Logic Host Route (SLHR) subfield prompts, enter the following:
   a. In response, to the MSGSET prompt, enter R02 or R01.
   b. In response, to the TRANSPRT prompt, enter SS7.
   c. In response, to the GTT prompt, enter a Global Title Translation variable, for example, AINJAZZ.
   d. In response, to the GTSOURCE prompt, enter DFLT.
5. The OPTION field prompt. This field is optional. When choosing to datafill this field, the two choices are as follows:
   - Potential use (POTUSE) option. This option is used to specify the service for that a particular tuple in table TRIGDIG is being used.

     After entering POTUSE in the OPTION field, the POTUSE field is the next prompt. There are two options that can be specified: carrier portability code (CPC); enter CPC to specify this service. The other options is toll free service (TFS). Enter TFS for this option.
   - Default routing (DFLTRT) option.

Assumptions regarding the datafilling of the ACTION field in all triggering examples are described in Chapter 17: “Provisioning assumptions” on page 575.

30.3.2 Step 2: Datafilling table TRIGGRP

An AINGRP that contains trigger SDS must be defined in table TRIGGRP before it can be referenced in any subscription table.

1. The KEYs consist of the trigger group name and on the trigger detection point (TDP). A name must be created for the AINGRP (up to 16 characters). The TDP for PODP trigger type must be INFOANAL.
2. In response to the TRIGGER prompt, enter PODP.
3. In response to the CRITERIA prompt, the following criteria can be entered for the SDS trigger:
   a. Call Type (CT) criterion, this criterion is optional. In response to the CALLTYPE prompt, enter VBINFO for voice or CMDATA for data. When the CT criterion is not specified, then both voice and data calls will trigger when all other criteria are satisfied.
   b. Digits (DG) criterion, this criterion is mandatory for trigger SDS. When the DG criterion is specified, DIGNAME is the next prompt. In response to the DIGNAME prompt, enter the DIGNAME defined in Section 30.3.1 “Step 1: Datafilling table TRIGDIG” on page 784
   c. Escape Coin (ESCCN) criterion, the coin escape criterion is optional. In response to the COIN_CALL_TYPE prompt, enter a coin originated call type. Adding this criterion will restrict that coin-originated call types (DD, OA, NP) will trigger.
   d. Escape Equal Access (ESCEA) criterion, this criterion is optional. When specified, the SDS trigger will not trigger when the call is an Equal Access call.
   e. Escape Operator (ESCOP) criterion, this criterion is optional. When specified, the SDS trigger will not trigger when the call is going to an operator.
   f. Escape GenericAddress present (ESCGP) criterion, this criterion is optional. When specified, the SDS trigger will not trigger when the call is the GenericAddress parameter is present.
4. In response to the INFONAME prompt, enter NIL.
5. When all desired triggers have been entered, enter $ at the TRIGGER prompt.

Note: All examples in this document are limited to a one trigger–one response case and, for simplicity, an AINGRP always contains only one trigger. For trigger types subscribed at the office level, it is likely that an AINGRP would contain all the office trigger types. In this case, all these office trigger types would need to be defined.

30.3.2.1 Datafilling criteria in table TRIGGRP

Table 365 shows the different ways the criteria can be datafilled.

Table 365 Sample datafill of criteria in table TRIGGRP

KEY		TRIGDATA			
AINGRP	TDP	TRIGGER	CRITERIA	INFONAME	
OFCTRIG1	INFOANAL	PODP	(DG PODPDIG) (ESCCN DD) (ESCGP) $	NIL	$
OFCTRIG2	INFOANAL	PODP	(DG PODPDIG) (ESCCN NP) (CT VBINFO) $	NIL	$
OFCTRIG3	INFOANAL	PODP	(DG PODPDIG) (ESCCN OA) (CT VBINFO) $	NIL	$
OFCTRIG4	INFOANAL	PODP	(DG PODPDIG) (ESCCN DD_NP) $	NIL	$
OFCTRIG5	INFOANAL	PODP	(DG PODPDIG) (ESCCN DD_OA) $	NIL	$
OFCTRIG6	INFOANAL	PODP	(DG PODPDIG) (ESCCN OA_NP) $	NIL	$
OFCTRIG7	INFOANAL	PODP	(DG PODPDIG) (ESCCN ALL) $	NIL	$
OFCTRIG8	INFOANAL	PODP	(DG PODPDIG) (ESCEA) (ESCOP) $	NIL	$

30.3.3 Step 3: Datafilling table OFCVAR

Subscription to an SDS AINGRP is done on an office basis. The AINGRP defined in Step 2 can be assigned to the office parameter AIN_OFFICE_TRIGGRP in table OFCVAR with table editor. Once AIN_OFFICE_TRIGGRP is assigned a TRIGGRP and AIN is active in the office (that is, the AIN_ACTIVE parameter is set to Y), triggers subscribed by the office are applied to all calls.

> ***Note 1:*** The parameter AIN_OFFICE_TRIGGRP can only be set to one office trigger group.
>
> ***Note 2:*** Changing table OFCVAR requires setting RWOK to ON.

Table 366 shows the highlights of steps 1 to 3. It shows the trigger definition and subscription tables for the PODP trigger type.

Table 366 SDS trigger definition and subscription tables

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Subscription tables	Option	SERVORD
INFOANAL	PODP	CT ESCCN ESCEA ESCOP ESCGP DG (M)	TRIGGRP TRIGDIG	Office	OFCVAR	N/A	No
Note: (M) = mandatory							

30.3.4 Step 4: Datafilling table PODPATTR (optional)

Table PODPATTR specifies overriding line attributes to provide post query processing for trigger SDS, based on the SDS number. When no entry exists in table PODPATTR for the SDS DN, the originator's line attributes are used. The table consists of the following mandatory fields:

1. In response to the KEY prompt, enter the SDS number, that can be from 3 to 18 digits. Note that key matching is from most specific to least specific. Also, the matching of this table is based on the dialed number that caused the triggering, not on the digit pattern of the SDS number. For example, when the user dials 6137220000 and hits a 3-digit SDS trigger (that is, 613), the matched digit pattern is 6137220000, not just 613.
2. In response to the LINEATTR prompt, enter the value that associates the trigger with the corresponding index in table LINEATTR.
3. In response to the XLAPLAN prompt, enter the value that associates the trigger with the corresponding index in table XLAPLAN.
4. In response to the RATEAREA prompt, enter the value that associates the trigger with the corresponding index in table RATEAREA.
5. In response to the primary interexchange carrier prompt, enter the name of the primary interexchange carrier. It is of type IC_INC_CARRIER_NAME, that has a range of values corresponding to the tuple keys in table OCCNAME. In situations where no carrier is desired, the value NILC is used, denoting the equivalent of a NIL carrier.
6. In response to the local primary interexchange carrier prompt, enter the local primary interexchange carrier, that can have the same values as the primary interexchange carrier field defined in the preceding step.

Note: The following tables must be datafilled: LINEATTR, XLAPLAN, RATEAREA, OCCNAME, and OCCINFO.

Table 367 provides an example of table PODPATTR with sample datafill.

Table 367 Example entries in table PODPATTR

KEY	LINEATTR	XLAPLAN	RATEAREA	Primary inter-exchange carrier	Local primary inter-exchange carrier
5146211234	10	514_P621_5	L514_LA2_12	NILC	NLIC
613722	55	613_P722_0	L613_LA1_4	ATT	GTE
613	80	613_P621_19	L613_NIL_0	MCI	NILC

The warning illustrated in Figure 198is displayed when a tuple is added, changed, or deleted from table PODPATTR and the office is subscribed to the trigger item provisioning interface.

Figure 198 Warning--Modify PODPATTR--inactive table

```
TABLE PODPATTR IS INACTIVE, AS THE OFFICE IS
SUBSCRIBED TO TRIGGER ITEMS.
USE LARP OPTION IN TABLE TRIGITM.
```

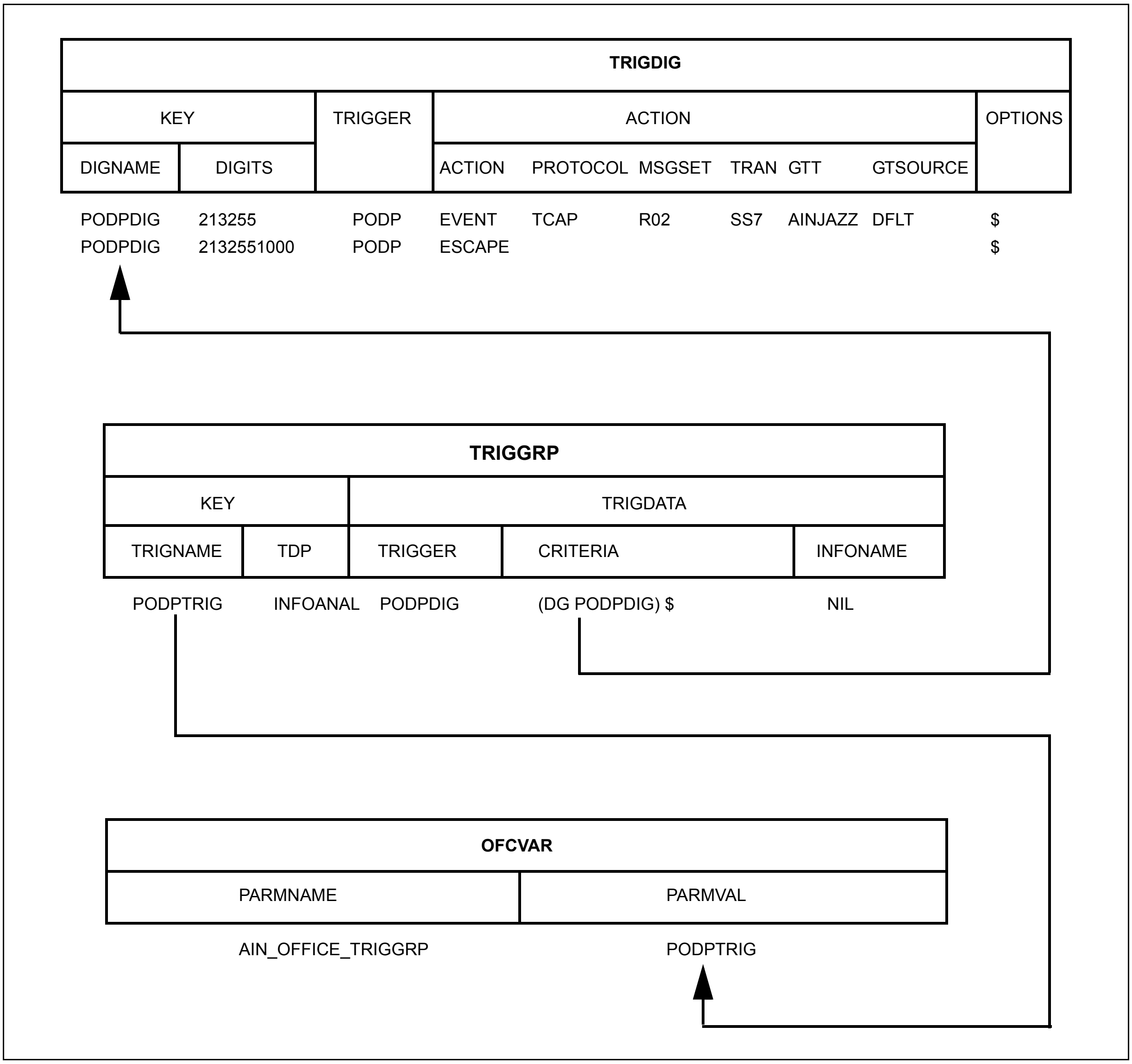
30.3.5 Step 5: Verifying with TRAVER

Once the datafill has been set up for the SDS trigger, TRAVER can be used to verify the AIN Service Enablers triggering.

Note: When the POPDATTR trigger is datafilled, two TRAVERs are performed to verify the trigger. The first TRAVER encounters trigger PODPATTR with the overriding line attributes indicating a second TRAVER is required. For the second TRAVER to simulate the response processing, the customer selects the podpattr key entry and enters the key under the PODPATTR option of the AIN Response Translation.

Figure 199 on page 790 illustrates the datafill for the samples listed in this section. It also shows the dependencies between the datafilling tables. Apply the instructions already outlined in steps 1 to 4 to add the sample tuples shown in Figure 199 on page 790 and verify the datafill with TRAVER.

Figure 199 Sample datafill for the SDS example



Note: When the tuple in Table 368 is added to table TRIGDIG, receiving a CONT response from the off-board processor allows the call to continue to trigger at SDS (6). See Chapter 43: "Continue response" on page 1003 when retriggering at SDS is desired.

Table 368 Sample PODPDIG definition in table TRIGDIG

KEY					
DIGNAME	**TRIGGER**	**DIGITS**	**TRIGGER**	**ACTION**	**OPTION**
PODPDIG	PODP	213285	PODP	EVENT TCAP R02 SS7 AINJAZZ DFLT	$

30.3.5.1 Example 1: SDS trigger

From an MDC line (DN 7223211), dial 92132551020 where 9 is a public environment access code. The call triggers at SDS on the digits 213255 and queries the database. The TRAVER output is shown in Figure 200 on page 791.

30.3.5.2 Example 2: SDS escape

From an MDC line (DN 7225028), dial 92132551000 where 9 is a public environment access code. The call matches an ESCAPE tuple in table TRIGDIG and escapes triggering at SDS. The TRAVER output is shown in Figure 201 on page 793.

30.3.5.3 Example 3: ISUP IT FGD calls

The ISUP IT FGD calls at the access tandem are allowed to trigger at SDS in the case where the SSP selector is encountered and TNS is LEC (110). A two-stage TRAVER is used to mimic the outpulsing involved in the call. Figure 202 on page 795 and Figure 203 on page 796 show how to use a two-stage TRAVER to verify the SDS trigger at the access tandem (from ISUP IT incoming trunk ISUPITEAIC that carries EA traffic, digits 0991106706211500 are inpulsed).

30.3.5.4 Example 4: SDS trigger with overriding line attributes

From a POTS line (DN 613667101), dial 6136213003. The call triggers and queries the database. When the PODPATTR trigger is datafilled. two TRAVERS are performed to verify the trigger. The first TRAVER encounters trigger PODPATTR with the overriding line attributes indicating a second TRAVER is required. For the second TRAVER to simulate the response processing, the customer selects the podpattr key entry and enters the key under the PODPATTR option of the AIN Response Translation. Figure 204 on page 797 shows the TRAVER output for the first TRAVER. Figure 205 on page 799 shows the TRAVER output for the response TRAVER.

30.3.6 TRAVER outputs

> ***Note:*** The order in the TRAVER output reflects the translation order only. For the datafilling order, see Section 30.3 “Trigger group provisioning interface” on page 784.

Figure 200 provides a sample TRAVER output for trigger SDS using the trigger group provisioning interface.

Figure 200 TRAVER for trigger SDS using trigger group provisioning (example 1)

```
>TRAVER L 7223211 92132551020 B
TABLE IBNLINES
HOST 01 0 00 01 0 DT STN IBN 7223211 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
```

Figure 200 TRAVER for trigger SDS using trigger group provisioning (example 1) (Continued)

```
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP PODPTRIG
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 213 250 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 213 216 HNPA 0
 . 255 255 LRTE 766
 . SUBTABLE RTEREF
 .  766 S D ISUPTAC61_16
 . EXIT TABLE RTEREF
```

Figure 200 TRAVER for trigger SDS using trigger group provisioning (example 1) (Continued)

```
EXIT TABLE HNPACONT
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL NP N DD UNDT
TABLE CLSVSCRC
KEY NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
TABLE TRIGGRP
PODPTRIG INFOANAL
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 .  . TABLE TRIGDIG
 .  . PODPDIG PODP 213255 PODP EVENT TCAP R02 SS7 AINJAZZ DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 2132551020 2132551020 SSNONLY (AINTEST) $
 .  . TABLE PODPATTR
 .  . TUPLE NOT FOUND
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 201 provides a sample TRAVER output for the SDS escape code using the trigger group provisioning interface.

Figure 201 TRAVER for SDS escape code using trigger group provisioning (example 2)

```
>TRAVER L 7223211 92132551020 B
```

Figure 201 TRAVER for SDS escape code using trigger group provisioning (example 2) (Continued)

```
TABLE IBNLINES
HOST 01 0 00 01 0 DT STN IBN 7223211 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP PODPTRIG
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 213 250 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
```

Figure 201 TRAVER for SDS escape code using trigger group provisioning (example 2) (Continued)

```
 . 213 216 HNPA 0
 . 255 255 LRTE 766
 . SUBTABLE RTEREF
 .  766 S D ISUPTAC61_16
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL NP N DD UNDT
TABLE CLSVSCRC
KEY NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
TABLE TRIGGRP
PODPTRIG INFOANAL
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 .  . TABLE TRIGDIG
 .  . PODPDIG PODP 2132551000 PODP ESCAPE $
AIN Info Analyzed TDP: trigger criteria not met.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 ISUPTAC61_16          2132551000         ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

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

Figure 202 (example 3, stage 1) and Figure 203 (example 3, stage 2) provide sample TRAVER outputs for ISUP IT SGD calls using the trigger group provisioning interface.

Figure 202 TRAVER for ISUP IT FGD calls using trigger group provisioning (example 3, stage 1)

```
>TRAVER TR isupiteaic 099110 B
```

Figure 202 TRAVER for ISUP IT FGD calls using trigger group provisioning (example 3, stage 1)

```
TABLE TRKGRP
ISUPITEAIC IT 63 ITTD NCRT IC NIL MIDL 613 E800 NSCR 613 000 N Y $
TABLE OFCVAR
AIN_OFFICE_TRIGGRP PODPTRIG
TABLE STDPRTCT
E800 ( 1) ( 0) 3
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 099110 099110 SSP NP 6 6 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N

+++ TRAVER: SUCCESSFUL CALL TRACE +++



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

Figure 203 TRAVER for ISUP IT FGD calls using trigger group provisioning (example 3, stage 2)

```
>TRAVER TR isupiteaic 6217140 B
TABLE TRKGRP
ISUPITEAIC IT 63 ITTD NCRT IC NIL MIDL 613 E800 NSCR 613 000 N Y $
TABLE OFCVAR
AIN_OFFICE_TRIGGRP PODPTRIG
TABLE STDPRTCT
E800 ( 1) ( 0) 3
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 621 621 N DD 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 7140 L HOST 00 0 01 18
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
```

Figure 203 TRAVER for ISUP IT FGD calls using trigger group provisioning (example 3, stage 2) (Continued)

```
613 621 7140
    (PUBLIC (NONUNIQUE ) $)$ $
TABLE DNGRPS
TUPLE NOT FOUND
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
AIN Info Collected TDP: no subscribed trigger.
TABLE FNPA7DIG
TUPLE NOT FOUND
TABLE TRIGGRP
PODPTRIG INFOANAL
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 .  . TABLE TRIGDIG
 .  . PODPDIG PODP 6136217140 PODP EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6136217140 6136217140 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
 .  . TABLE PODPATTR
 .  . TUPLE NOT FOUND
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++

%%%END SCENARIO
```

Figure 204TRAVER for SDS trigger with overriding line attributes

TRAVER L 6671001 6136213003 TRAVER L 6671001 6136213003 b
TABLE LINEATTR
408 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_408 L667_LATA1_408 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN

Figure 204TRAVER for SDS trigger with overriding line attributes

613_P621_408 C667 613 P621 TSPS N $ $
TABLE RATEAREA
L667_LATA1_408 L667 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIG
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
P621 (1) (0) 1
. SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING. CALL TYPE DEFAULT IS NP. PLEASE REFER TO
DOCUMENTATION.
. 61362 61365 NT DD 0 NA $
. SUBTABLE AMAPRT
. KEY NOT FOUND
. DEFAULT VALUE IS: NONE OVRNONE N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 939 2 (59) (1) (84) (0) 2 $
. SUBTABLE HNPACODE
. 61362 6136630008 HNPA 0
. 6213 6214 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 3003 D BLDN
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE TMTCNTL
LNT (46)
. SUBTABLE TREAT
. BLDN Y T OFRT 52
. TABLE OFRT
.   52 S D VCA
.   S D *OFLO
.   S D LKOUT
. EXIT TABLE OFRT
LNP Info: Called DN is not resident.

Figure 204TRAVER for SDS trigger with overriding line attributes

```
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L667 ( 5) OPTL N N Y
 . SUBTABLE LCASCR
 . 613 613
TABLE LCASCRCN
613 L667 ( 5) OPTL N N Y
 . SUBTABLE LCASCR
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL DD N DD UNDT
TABLE CLSVSCRC
KEY NOT FOUND
TABLE LATAXLA
TUPLE NOT FOUND
ASSUMED TO BE DEFAULT INTRALATA, INTRASTATE, STD
AIN Info Collected TDP: no subscribed trigger.
TABLE TRIGGRP
OFCTRIG INFOANAL
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 .  . TABLE TRIGDIG
 .  . PODPDIG PODP 6136213003 PODP EVENT TCAP R02 SS7 AINPOP DFLT $
.  .  . TABLE C7GTTYPE
 .  .  . AINPOP ANSI7 6 $
 .  .  . TABLE C7GTT
 .  .  . AINPOP 6136213003 6136213003 PCSSN (SIMTOOL_RTESET SIMTOOL3 0) $
SSN
 .  . TABLE PODPATTR
 .  . 6136213003 101 613_P621_0 L613_LATA1_0 MCI GTE

WARNING: PODPATTR datafilled for PODP trigger. Perform a
 response TRAVER with the following command line after
 the AR response : PODPATTR 6136213003

AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 205TRAVER to simulate the response processing

```
>traver l 6671001 n cdn na 6136671002 ainres r02 ar podpattr 6136213003 b
```

Figure 205TRAVER to simulate the response processing

Warning: Routing characteristics are present.
Originator must be able to send in
characteristics specified.
WARNING: Line Attributes of Originator are being overridden
by those provided by the PODPATTR option from the
corresponding tuple in TABLE PODPATTR
TABLE RTECHAR
. LECNA (CDN NA $) (BC 3_1KHZ (CDN NA)$)$
TABLE LINEATTR
101 1MR NONE NT 0 11 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_1 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIG
TABLE PXLAMAP
. LECNA P621 (XLA P621)$
TABLE STDPRTCT
P621 (1) (0) 1
. SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING. CALL TYPE DEFAULT IS NP. PLEASE REFER TO
DOCUMENTATION.
. 61366 61366 NT NP 0 NA $
. SUBTABLE AMAPRT
. KEY NOT FOUND
. DEFAULT VALUE IS: NONE OVRNONE N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 939 2 (59) (1) (84) (0) 2 $
. SUBTABLE HNPACODE
. 6136671002 6136737100 HNPA 0
. 667 667 DN 613 667
TABLE TOFCNAME
613 667 $
TABLE DNINV
613 667 1002 L HOST 01 0 02 02
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS

Figure 205TRAVER to simulate the response processing

```
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 44) OPTL N N Y
 . SUBTABLE LCASCR
 . 613 613
TABLE LCASCRCN
613 L613 ( 44) OPTL N N Y
 . SUBTABLE LCASCR
 . 667 667
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
613 C667 NP 2 N NONE ( 1)
 . SUBTABLE CLSVSCR
 . KEY NOT FOUND
TABLE TRIGGRP
OFCTRIG INFOANAL
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 . N11 ( DG N11TRAF)$ NIL
Trigger AIN N11 is applicable to office.
 . PODP ( DG PODPTRAF)$ NIL
Trigger AIN PODP is applicable to office.
 . LNP ( DG LNPDIG) ( ESCEA ) ( ESCOP )$ NIL
Trigger AIN LNP is applicable to office.
AIN Info Analyzed TDP: trigger criteria not met.
AIN Term Attempt TDP: no subscribed trigger.

+++ TRAVER: SUCCESSFUL CALL TRACE +++

WARNING: Line Attributes of Originator are being overridden
 by those provided by the PODPATTR option from the
 corresponding tuple in TABLE PODPATTR

DIGIT TRANSLATION ROUTES

1 LINE                  6136671002         ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

```

Figure 205TRAVER to simulate the response processing

+++ TRAVER: SUCCESSFUL CALL TRACE +++

31 N11 trigger

ATTENTION
Trigger N11 can be provisioned in two ways: either by using the trigger item or trigger group provisioning interface. A subscriber (office, customer group, or individual agent) can only subscribe to triggers defined by one provisioning interface, however, a call can encounter triggers provisioned in different provisioning interfaces at different subscription levels.

31.1 General

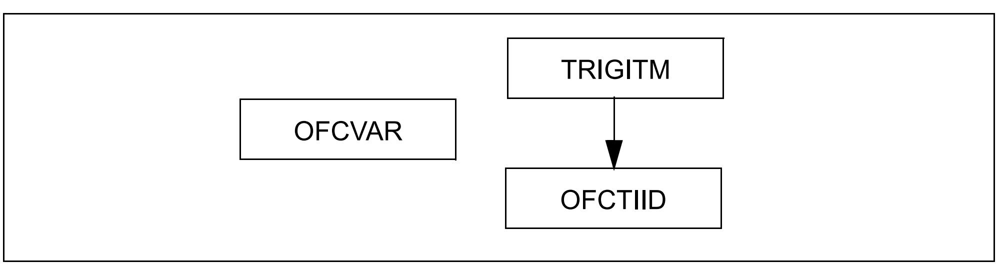
Trigger N11 occurs at the Info_Analyzed (INFOANAL) TDP in the originating basic call model (BCM).

This trigger can be subscribed to on an office basis by any facility with access to the Public Office Dialing Plan (PODP). The triggering criteria is met when an N11 code is dialed.

31.2 Trigger item provisioning interface

Figure 206 shows the datafilling steps required by the N11 trigger. Figure 206 assumes that the trigger item provisioning interface for the N11 trigger has been selected with the OFCVAR table.

Figure 206 Datafilling hierarchy for the N11 trigger



31.2.1 Step 1: Datafilling table TRIGITM

The N11 trigger type is digit based, and a trigger item identification name must be datafilled in table TRIGITM. This information indicates the action to be performed by the SSP when the criterion is satisfied.

1. In response to the TDP prompt, enter 4. This is the numeric code for the Info_Analyzed TDP.
2. In response to the TINAME prompt, enter the trigger item identifier you wish to use. For example, enter N11TRIG1.
3. In response to the TRIGGER prompt, enter N11.
4. In response to the CRITERIA prompt, enter any of the following for the N11 trigger. When all desired criteria have been entered, type $ at the CRITERIA prompt.
    a. Digits (DG) criterion: This criterion is mandatory for the N11 trigger. When the DG criterion is specified, you are prompted for the DIGITS.
    b. Call Type (CT) criterion: This criterion is optional. In response to the CT prompt, enter VBINFO for voice or CMDATA for data. If the CT criterion is not specified, then both voice and data calls will trigger if all other criteria are satisfied.
5. In response to the STATE field, enter LK or ULK. LK locks (or deactivates) a trigger item; ULK unlocks (or activates) a trigger item.
6. In response to the ACTION prompt, type either EVENT or ESCAPE. EVENT instructs the SSP to launch a query when the trigger criterion has been satisfied. ESCAPE prevents a query from being launched. If you choose EVENT, you must datafill the MSGSET, TRANSPORT, and GTT fields. See step 7 for the EVENT action. Otherwise, see step 8.
7. If you entered EVENT at the ACTION prompt, then you are prompted for the SLHR subfields. In response to the prompts, enter the following:
    a. In response to the MSGSET prompt, enter R02 or R01.
    b. In response to the TRANSPORT prompt, enter SS7.
    c. In response to the GTT prompt, enter a Global Title Translation variable, for example, AINJAZZ.

31.2.2 Step 2: Datafilling for line attribute response processing

The line attribute response processing (LARP) option provides post query processing for triggers. This option allows overriding line attributes to be assigned against individual trigger items that replace the originator’s line attributes during response processing. When this option is not specified, the originator’s line attributes are used.

Overriding line attributes are defined by the following fields: LINEATTR, XLAPLAN, RATEAREA, primary interexchange carrier, and local primary interexchange carrier.

This functionality is available whether or not the switch has lines provisioned. The switch must be able to provision line attributes and trigger items in order to provide overriding line attributes for a trigger.

This functionality was enhanced in NA015. It now provides the operating companies the flexibility to let the response processing on a trigger having overriding line attributes to be treated as a re-direction or no re-direction with a field, REDIR. It also provides the operating company with control of overriding the forwarding attributes with a field, FWDATTR.

The redirection attribute is defined by the field REDIR. The forwarding attribute is controlled by the selector field FWDATTR and the forwarding attributes are defined by the following fields: REDIR_REASON, REDIR_PARTY_ID, TCM and CHARGE_NUMBER.

The following steps describe how to datafill the LARP option for a trigger item:

> ***Note:*** The following tables must be datafilled before the LARP option: LINEATTR, XLAPLAN, RATEAREA, OCCNAME, and OCCINFO.

1. Enter LARP at the OPTION prompt while datafilling the trigger item.
2. In response to the LINEATTR prompt, enter the value that associates the trigger with the corresponding index in table LINEATTR. This field is mandatory.
3. In response to the XLAPLAN prompt, enter the value that associates the trigger with the corresponding index in table XLAPLAN.This field is mandatory.
4. In response to the RATEAREA prompt, enter the value that associates the trigger with the corresponding index in table RATEAREA.This field is mandatory.
5. In response to the primary interexchange carrier prompt, enter the name of the Primary Interexchange Carrier. It has a range of values corresponding to the tuple keys in table OCCNAME. In scenarios where no carrier is desired, the value NILC is used, denoting the equivalent of a NIL carrier.
6. In response to the local primary interexchange carrier prompt, enter the Local primary interexchange carrier. The local primary interexchange

carrier can have the same values as the primary interexchange carrier field defined in step 5.

7. In response to REDIR prompt, enter N or Y. The default value is N.
8. In response to the FWDATTR prompt, enter N or Y. The default value in N.
   a. If REDIR='N' and FWDATTR=Y go to step 9.
   b. If REDIR='Y' and FWDATTR=Y got to step 10.
9. When REDIR='N' and FWDATTR=Y then:
   a. In response to TCM prompt, enter a valid TCM value or '$' for a nil value.

   Note: A valid entry is any hexadecimal number other than an A or a B or a C. Hexadecimal A (decimal 10) is spare. Hexadecimal B (decimal 11) and hexadecimal C (decimal 12) are reserved.

   b. In response to CHARGE_NUMBER prompt, enter 3 to 15 digits or '$' for nil value.
10. When REDIR='Y' and FWDATTR='Y' then:
    a. In response to REDIR_REASON prompt, enter a valid redirecting reason. The redirecting reason can have the values, UNCOND, UNKNOWN, BUSY, NOREPLY.
    b. In response to the REDIR_PARTY_ID prompt, enter the 3 to 15 digits or '$' for a nil value. For PFC triggers, REDIR_PARTY_ID cannot take a nil value.
    c. In response to TCM prompt, enter a valid TCM value or '$' for a nil value.

    Note: A valid entry is any hexadecimal number other than an A or a B or a C. Hexadecimal A (decimal 10) is spare. Hexadecimal B (decimal 11) and hexadecimal C (decimal 12) are reserved.

    d. In response to CHARGE_NUMBER prompt, enter 3 to 15 digits or '$' for nil value.

In the trigger group provisioning interface, this functionality was provided by table PODPATTR. The warning provided in Figure 207 is displayed when a tuple is added, changed, or deleted from table PODPATTR and the office is subscribed to the trigger item provisioning interface.

Figure 207 Warning--Modify PODPATTR--inactive table

```
TABLE PODPATTR IS INACTIVE, AS THE OFFICE IS SUBSCRIBED
TO TRIGGER ITEMS.  USE LARP OPTION IN TABLE TRIGITM.
```

31.2.3 Step 3: Datafilling Table OFCTIID

Table OFCTIID stores the trigger item assignments (subscriptions). Subscription to N11 occurs on an office-wide basis only. Do the following steps:

1. In response to the KEY prompt, enter the two-part key which consists of the TDP and TINAME.
   a. For the TDP, enter 4.
   b. For the TINAME, enter the same identification name that you entered in item 2 of Section 31.2.1 “Step 1: Datafilling table TRIGITM” on page 804.
2. In response to the TRIGACT prompt, enter ON to enable the assignment or OFF to disable the assignment.

31.2.4 Verifying with TRAVER

Once the datafill has been set up for trigger N11, use TRAVER to verify the AIN triggering.

When the LARP option is datafilled, two TRAVERs are performed to verify the trigger. The first TRAVER encounters trigger N11 with the overriding line attributes specified by the LARP option and a warning is displayed indicating a second TRAVER is required. For the second TRAVER to simulate the response processing, the customer selects the trigitm entry having the LARP option of the first TRAVER by entering the <TDP><TINAME> under the LARP option of the AIN Response Translation.

31.2.5 Example of calls using trigger item provisioning

This section describes four sample calls that trigger at N11 and that use trigger item provisioning. The examples are based on the different types of agents from which the N11 trigger can be encountered. Figure 208 on page 809 illustrates the datafill for the trigger group provisioning for these four sample calls. It also shows the dependencies between the datafilling tables. Apply the instructions already outlined in steps 1 to 2 to add the sample tuples shown in Figure 208 on page 809 and verify the datafill with TRAVER. The TRAVER output is shown in Figure 209 on page 810 to Figure 218 on page 823.

31.2.5.1 Example1: MDC line

From an MDC line (6137224011), dial 9411 (9 is the access code to the POTS environment). The call triggers at N11 and queries the database. See sample output in Figure 209 on page 810.

31.2.5.2 Example 2: POTS line

From a POTS line (6136212111), dial 411. The call triggers at N11 and queries the database. See sample output in Figure 211 on page 812.

31.2.5.3 Example 3: POTS trunk

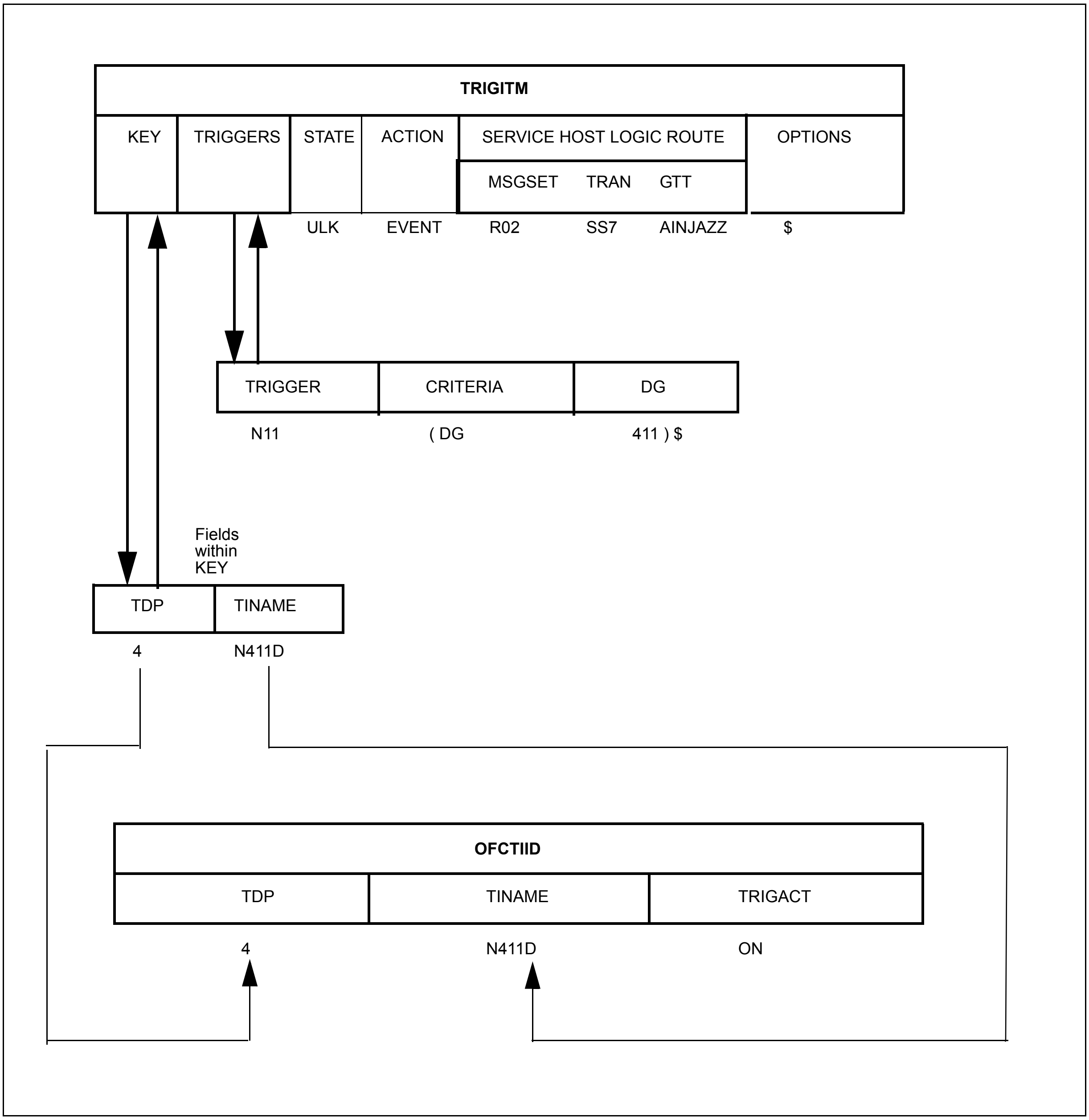
From the incoming POTS trunk ISUPITIC, the outpulse number is 411. An N11 trigger item (N411D) is defined with digits 411 in the TRIGITM table and assigned in the OFCTIID table. The call triggers at N11. See sample output in Figure 215 on page 819.

31.2.5.4 Example 4: IBN trunk

From the incoming IBN trunk, ISUPIBNIC, the outpulse number is 9411. An N11 trigger item (N411D) is defined with digits 411 in table TRIGITM and assigned in table OFCTIID. The call triggers at N11. See sample output in Figure 217 on page 822.

Figure 208 illustrates the datafill for the four N11 sample calls.

Figure 208 Sample datafill for the N11 example



31.2.5.5 TRAVER outputs

Note: The order of the TRAVER output reflects the translation order only. For the datafilling order, see Section 31.2 "Trigger item provisioning interface" on page 803.

Figure 209 to Figure 212 on page 813 provide example TRAVER outputs for trigger item provisioning and MDC and POTS lines, and POTS and IBN trunks, respectively.

Figure 209 TRAVER example for trigger item provisioning and MDC line

```
>TRAVER L 6137224011 9411 B
TABLE IBNLINES
HOST 00 0 02 18 0 DT STN IBN 7224011 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 411 411 T OA 0 OFRT 44 3 3 NONE
 .  . TABLE OFRT
 .  .   44 N D DAC 3 N Y
 .  . EXIT TABLE OFRT
 . SUBTABLE AMAPRT
```

Figure 209 TRAVER example for trigger item provisioning and MDC line (Continued)

```
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
Checking AIN N11 Trigger Items as N11 is compatible with current call
 .  . TABLE OFCTIID
 .  . 4 N411D ON
 .  . TABLE TRIGITM
 .  . 4 N411D N11 (DG 411) $ ULK EVENT R02 SS7 AINJAZZ $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 4110000000 4110000000 SSNONLY (AINTEST) $
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 210 TRAVER example for trigger item provisioning and POTS line

```
>TRAVER L 6136212111 411 B
TABLE LINEATTR
0 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
```

Figure 210 TRAVER example for trigger item provisioning and POTS line (Continued)

```
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 411 411 T OA 0 OFRT 44 3 3 NONE
 .  . TABLE OFRT
 .  .   44 N D DAC 3 N Y
 .  . EXIT TABLE OFRT
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE LATAXLA
TUPLE NOT FOUND
ASSUMED TO BE DEFAULT INTRALATA, INTRASTATE, STD
AIN Info Collected TDP: no subscribed trigger.
Checking AIN N11 Trigger Items as N11 is compatible with current call
 .  . TABLE OFCTIID
 .  . 4 N411D ON
 .  . TABLE TRIGITM
 .  . 4 N411D N11 (DG 411) $ ULK EVENT R02 SS7 AINJAZZ $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 4110000000 4110000000 SSNONLY (AINTEST) $
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 211 TRAVER example for trigger item provisioning and POTS trunk

```
>TRAVER TR ISUPITIC 411 B
TABLE TRKGRP
ISUPITIC IT 63 ITTD NCRT IC NIL MIDL 613 E800 NSCR 613 000 N Y $
```

Figure 211 TRAVER example for trigger item provisioning and POTS trunk (Continued)

```
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
TABLE STDPRTCT
E800 ( 1) ( 0) 3
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 411 411 T OA 0 OFRT 44 3 3 NONE
 .  . TABLE OFRT
 .  .   44 N D DAC 3 N Y
 .  . EXIT TABLE OFRT
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
AIN Info Collected TDP: no subscribed trigger.
Checking AIN N11 Trigger Items as N11 is compatible with current call
 .  . TABLE OFCTIID
 .  . 4 N411D ON
 .  . TABLE TRIGITM
 .  . 4 N411D N11 (DG 411) $ ULK EVENT R02 SS7 AINJAZZ $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 4110000000 4110000000 SSNONLY (AINTEST) $
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 212 TRAVER example for trigger item provisioning and IBN trunk

```
>TRAVER TR ISUPIBNIC 9411 B
TABLE TRKGRP
ISUPIBNIC IBNTI 0 ELO NCRT COMKODAK 0 0 6137224111 ANSDISC 0 Y N N N N N N
0 0 N
    N N N Y FGD Y N $ NATL $
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
```

Figure 212 TRAVER example for trigger item provisioning and IBN trunk (Continued)

```
AIN_OFFICE_TRIGGRP TIID
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 411 411 T OA 0 OFRT 44 3 3 NONE
 .   . TABLE OFRT
 .   .    44 N D DAC 3 N Y
 .   . EXIT TABLE OFRT
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
AIN Info Collected TDP: no subscribed trigger.
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
Checking AIN N11 Trigger Items as N11 is compatible with current call
 .   . TABLE OFCTIID
 .   . 4 N411D ON
 .   . TABLE TRIGITM
 .   . 4 N411D N11 (DG 411) $ ULK EVENT R02 SS7 AINJAZZ $
 .   .   . TABLE C7GTTYPE
 .   .   . AINJAZZ ANSI7 3 $
 .   .   . TABLE C7GTT
 .   .   . AINJAZZ 4110000000 4110000000 SSNONLY (AINTEST) $
AIN Info Analyzed TDP: trigger criteria met.
```

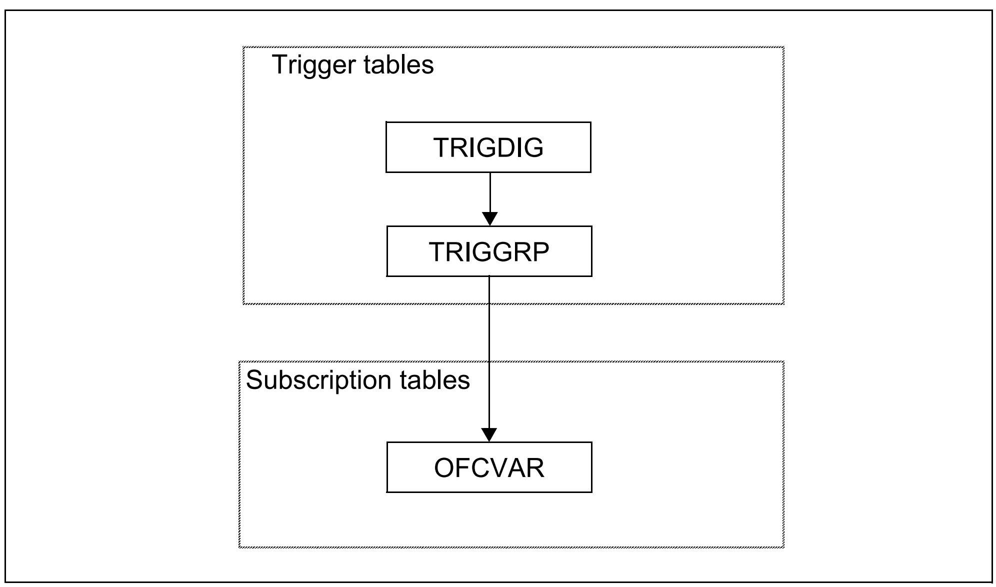
Figure 212 TRAVER example for trigger item provisioning and IBN trunk (Continued)

```
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

31.3 Trigger group provisioning interface

Figure 213 on page 815 shows the datafilling hierarchy for the N11 trigger. The datafilling steps follow the figure.

Figure 213 Datafilling hierarchy for N11 trigger for trigger group provisioning



31.3.1 Step 1: Datafilling table TRIGDIG

The digits (DG) criterion is mandatory for the N11 trigger type. A DIGNAME must be datafilled in table TRIGDIG to specify the DG criterion before it can be referenced from table TRIGGRP. A DIGNAME indicates addressing information based on the dialed digits and also the action to be performed by the SSP when the DG criterion is met.

1. The key consists of a DIGNAME, the trigger type, and the dialed digits. In response to the KEY prompt, enter the following fields:
   a. For the DIGNAME, enter the DIGNAME to be used in table TRIGGRP.
   b. For the TRIGGER, enter N11 to specify that trigger name to which the DG criterion applies.
   c. For the N11 trigger type, the DG criterion is actually based on the translated digits, that is, the dialed digits that have been translated into the PODP format. For example, from a Meridian Digital Centrex (MDC) line, if the dialed digits are 9411 (where 9 is an access code to the public environment), the digits that should be entered in response to the DIGITS prompt are 411.
2. You are prompted for the TRIGGER field a second time. In response to the TRIGGER prompt, enter N11. The value in this field must be the same as the trigger name used in the key field.

Assumptions regarding the datafilling of the ACTION field in all triggering example are described in the Chapter 17: “Provisioning assumptions” on page 575. However, see Figure 214 on page 818 for an illustration of the ESCAPE tuple in table TRIGDIG.

31.3.2 Step 2: Datafilling table TRIGGRP

An AINGRP that contains the N11 trigger must be defined in table TRIGGRP before it can be referenced in any subscription table.

Table TRIGGRP is keyed on the trigger group name and on the trigger detection point (TDP). You must create a name for the AINGRP (up to 16 characters). The TDP for the N11 trigger type must be INFOANAL.

1. In response to the TRIGGER prompt, enter N11.
2. In response to the CRITERIA prompt, the following criteria can be entered for the N11 trigger:
   a. Call Type (CT) criterion: This criterion is optional. In response to the CALLTYPE prompt, enter VBINFO for voice or CMDATA for data. If the CT criterion is not specified, then both voice and data calls will trigger if all other criteria are satisfied.
   b. Digits (DG) criterion: This criterion is mandatory for the N11 trigger. When the DG criterion is specified, you are prompted for the DIGNAME. In response to the DIGNAME prompt, enter the

DIGNAME you defined in Section 31.3.1 “Step 1: Datafilling table TRIGDIG” on page 815.

When all desired criteria have been entered, enter $ at the CRITERIA prompt.

3. In response to the INFONAME prompt, enter NIL.
4. When all desired triggers have been entered, enter $ at the TRIGGER prompt.

Note: All examples in this document are limited to a one-trigger–one-response case and, for simplicity, always define an AINGRP that contains only one trigger in it. For trigger types subscribed at the office level, it is very likely that an AINGRP will contain all the office basis triggers types; that is, SDS, N11 and AFR. In this case, all of these would need to be defined.

31.3.3 Step 3: Datafilling table OFCVAR

A subscription to an N11 AINGRP is done on office basis. The AINGRP defined in Step 2 can be assigned to the office parameter AIN_OFFICE_TRIGGRP in table OFCVAR using the Table Editor.

Table 369 presents the highlights of steps 1 to 3. It shows the trigger definition and subscription tables for the N11 trigger type.

Table 369 Trigger definition and subscription tables for N11

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Subscription tables	Option	SERVORD
INFOANAL	N11	CT	TRIGGRP	Office	OFCVAR	N/A	No
		DG (M)	TRIGDIG				
Note: Note: (M) = mandatory							

31.3.4 Step 4: Verifying with TRAVER

Once your datafill has been set up for the N11 trigger, TRAVER can be used to verify the AIN Service Enablers triggering.

31.3.5 Examples of calls using trigger group provisioning

This section describes four sample calls that trigger at N11 and that use trigger group provisioning. The examples are based on the different types of agents from which the N11 trigger can be encountered. Figure 214 on page 818 illustrates the datafill for the trigger group provisioning for these four sample calls. It also shows the dependencies between the datafilling tables. Apply the instructions already outlined in steps 1 to 3 to add the sample tuples shown in Figure 214 on page 818 and verify the datafill with TRAVER. The TRAVER output is shown in Figure 209 on page 810 to Figure 218 on page 823.

Figure 214 Sample datafill for four N11 examples using trigger group provisioning

TRIGDIG

KEY	TRIGGER	ACTION						OPTIONS
		ACTION	PROTOCOL	MSGSET	TRAN	GTT	GTSOURCE	
	N11	EVENT	TCAP	R01	SS7	AINJAZZ	DFLT	$
	N11	ESCAPE						

Fields within KEY

DIGNAME	TRIGGER	DIGITS
N11DIG	N11	411

TRIGGRP

KEY		TRIGDATA		
TRIGNAME	TDP	TRIGGER	CRITERIA	INFONAME
N11TRIG	INFOANAL	N11	(DG N11DIG) $	NIL

OFCVAR

PARMNAME	PARMVAL
AIN_OFFICE_TRIGGRP	N11TRIG

31.3.5.1 Example1: MDC line

From an MDC line (6137224011), dial 9411 (9 is the access code to the POTS environment). The call triggers at N11 and queries the database. See sample output in Figure 209 on page 810.

31.3.5.2 Example 2: POTS line

From a POTS line (6136212111), dial 411. The call triggers at N11 and queries the database. See sample output in Figure 211 on page 812.

31.3.5.3 Example 3: POTS trunk

From the incoming POTS trunk ISUPITIC, the outpulse number is 411. Since AIN_OFFICE_TRIGGRP has been assigned an N11 trigger group called N11TRIG, the call triggers at N11. See sample output in Figure 215 on page 819.

31.3.5.4 Example 4: IBN trunk

From the incoming IBN trunk ISUPIBNIC, the outpulse number is 9411. Since AIN_OFFICE_TRIGGRP has been assigned an AIN trigger group called N11TRIG, the call triggers at N11. See sample output in Figure 217 on page 822.

Figure 214 illustrates the datafill for the four N11 sample calls.

> ***Note:*** The AIN datafill for the four N11 examples are the same.

31.3.5.5 Example 5: POTS line with overriding line attributes

In the case of an N11 trigger with overriding line attributes from a POTS line (DN 6136671001), dial 611. The call triggers at N11 and queries the database. The TRAVER output is as shown in Figure 219 on page 825. It indicates the need to perform a second TRAVER as in Figure 220 on page 827.

31.3.5.6 TRAVER outputs

> ***Note:*** The order of the TRAVER output reflects the translation order only. For the datafilling order, see Section 31.3 "Trigger group provisioning interface" on page 815.

Figure 215 to Figure 218 on page 823 provide example TRAVER outputs for the trigger group provisioning interface and MDC and POTS lines, and POTS and IBN trunks, respectively.

Figure 215 TRAVER example for trigger group provisioning and MDC line

```
>TRAVER L 6137224011 9411 B
TABLE IBNLINES
HOST 00 0 02 18 0 DT STN IBN 7224011 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
```

Figure 215 TRAVER example for trigger group provisioning and MDC line (Continued)

```
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP N11TRIG
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 411 411 T OA 0 OFRT 44 3 3 NONE
 .   . TABLE OFRT
 .   .   44 N D DAC 3 N Y
 .   . EXIT TABLE OFRT
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
```

Figure 215 TRAVER example for trigger group provisioning and MDC line (Continued)

```
TABLE TRIGGRP
N11TRIG INFOANAL
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
 .  . TABLE TRIGDIG
 .  . N11DIG N11 411 N11 EVENT TCAP R02 SS7 AINJAZZ DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 4110000000 4110000000 SSNONLY (AINTEST) $
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 216 TRAVER example for trigger group provisioning and POTS line

```
>TRAVER L 6136212111 411 B
TABLE LINEATTR
0 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP N11TRIG
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
```

Figure 216 TRAVER example for trigger group provisioning and POTS line (Continued)

```
 . 411 411 T OA 0 OFRT 44 3 3 NONE
 .  . TABLE OFRT
 .  .   44 N D DAC 3 N Y
 .  . EXIT TABLE OFRT
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE LATAXLA
TUPLE NOT FOUND
ASSUMED TO BE DEFAULT INTRALATA, INTRASTATE, STD
AIN Info Collected TDP: no subscribed trigger.
TABLE TRIGGRP
N11TRIG INFOANAL
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
 .  . TABLE TRIGDIG
 .  . N11DIG N11 411 N11 EVENT TCAP R02 SS7 AINJAZZ DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 4110000000 4110000000 SSNONLY (AINTEST) $
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 217 TRAVER example for trigger group provisioning and POTS trunk

```
>TRAVER TR ISUPITIC 411 B
TABLE TRKGRP
ISUPITIC IT 63 ITTD NCRT IC NIL MIDL 613 E800 NSCR 613 000 N Y $
TABLE OFCVAR
AIN_OFFICE_TRIGGRP N11TRIG
TABLE STDPRTCT
E800 ( 1) ( 0) 3
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
```

Figure 217 TRAVER example for trigger group provisioning and POTS trunk (Continued)

```
DOCUMENTATION.
 . 411 411 T OA 0 OFRT 44 3 3 NONE
 .   . TABLE OFRT
 .   .    44 N D DAC 3 N Y
 .   . EXIT TABLE OFRT
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
AIN Info Collected TDP: no subscribed trigger.
TABLE TRIGGRP
N11TRIG INFOANAL
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
 .   . TABLE TRIGDIG
 .   . N11DIG N11 411 N11 EVENT TCAP R02 SS7 AINJAZZ DFLT $
 .   .   . TABLE C7GTTYPE
 .   .   . AINJAZZ ANSI7 3 $
 .   .   . TABLE C7GTT
 .   .   . AINJAZZ 4110000000 4110000000 SSNONLY (AINTEST) $
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 218 TRAVER example for trigger group provisioning and IBN trunk

```
>TRAVER TR ISUPIBNIC 9411 B
TABLE TRKGRP
ISUPIBNIC IBNTI 0 ELO NCRT COMKODAK 0 0 6137224111 ANSDISC 0 Y N N N N N N
0 0 N
    N N N Y FGD Y N $ NATL $
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP N11TRIG
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
```

Figure 218 TRAVER example for trigger group provisioning and IBN trunk (Continued)

```
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 411 411 T OA 0 OFRT 44 3 3 NONE
 .  . TABLE OFRT
 .  .   44 N D DAC 3 N Y
 .  . EXIT TABLE OFRT
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
AIN Info Collected TDP: no subscribed trigger.
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
TABLE TRIGGRP
N11TRIG INFOANAL
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
 .  . TABLE TRIGDIG
 .  . N11DIG N11 411 N11 EVENT TCAP R02 SS7 AINJAZZ DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 4110000000 4110000000 SSNONLY (AINTEST) $
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 218 TRAVER example for trigger group provisioning and IBN trunk (Continued)

```
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 219TRAVER example of N11 trigger with overriding line attributes

traver l 6631001 611 b
TABLE IBNLINES
HOST 01 0 08 02 0 DT STN RES 6631001 200 613_P621_200 L613_LATA1_0 613 $
TABLE LINEATTR
200 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_200 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_200 FR01 613 P621 TSPS Y RESG200 0 0 $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
HOST 01 0 08 02 0 AIN AIN TIID (4 PFC_LARP ON) $
TABLE CUSTSTN
RESG200 AIN AIN CDPCODE
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
RESG200 0 0 0 RNCOS $
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
RESG200 NXLA RXCMN200 RESGSTAR 0 RES
TABLE DIGCOLRES specified: RES digit collection
TABLE IBNXLA: XLANAME RXCMN200
TUPLE NOT FOUND
Default from table XLANAME:
RXCMN200
(NET N N 0 N NDGT N Y GEN (LATTR 262 613_EAP1_262 L613_LATA1_0)
(EA NILC Y 0) $ $)$ 9
TABLE DIGCOL
NDGT specified: digits collected individually
TABLE LINEATTR
262 1FR NONE NT 0 0 NILSFC 0 NIL NIL 00 613_EAP1_262 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_EAP1_262 FR01 613 EAP1 TOPS Y RESG200 0 0 $ $

Figure 219TRAVER example of N11 trigger with overriding line attributes

```
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE STDPRTCT
EAP1 ( 1) ( 0) 3
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 611 611 T OA 0 OFRT 44 3 3 NONE
 .  . TABLE OFRT
 .  .   44 N D ISUPITOG 3 N Y
 .  . EXIT TABLE OFRT
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE LATAXLA
TUPLE NOT FOUND
ASSUMED TO BE DEFAULT INTRALATA, INTRASTATE, STD
AIN Info Collected TDP: no subscribed trigger.
Checking AIN PFC Trigger Items as PFC is compatible with current call
TABLE TRIGGRP
CDPCODE INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
 . CDPCODE ( DG CDPTRAF)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is NOT applicable to customer group.
Checking AIN SDS Trigger Items as SDS is compatible with current call
Checking AIN N11 Trigger Items as N11 is compatible with current call
 .  . TABLE OFCTIID
 .  . 4 N11_LARP ON
 .  . TABLE TRIGITM
 .  . 4 N11_LARP N11 (DG 611) $ ULK EVENT R02 SS7 AINPOP
 .  .     (LARP 101 613_P621_0 L613_LATA1_0 MCI GTE N N ) $
 .  .  . TABLE C7GTTYPE
 .  .  . AINPOP ANSI7 6 $
 .  .  . TABLE C7GTT
 .  .  . AINPOP 6110000000 6110000000 PCSSN (SIMTOOL_RTESET SIMTOOL3 0) $
SSN
WARNING: LARP option datafilled for N11 trigger. Perform
 a response TRAVER with LARP 4 N11_LARP on  the command line
 after the AR response
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
```

Figure 219TRAVER example of N11 trigger with overriding line attributes

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++
WARNING: LARP option datafilled for N11 trigger. Perform
a response TRAVER with LARP 4 N11_LARP on the command line
after the AR response
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++

Figure 220TRAVER example of output for response translations

traver l 6671001 n cdn na 6136671002 ainres r02 ar larp 4 n11_larp b
Warning: Routing characteristics are present.
Originator must be able to send in
characteristics specified.
WARNING: Line Attributes of Originator are being overridden
by those provided by the LARP option from the
corresponding tuple in TABLE TRIGITM
TABLE RTECHAR
. LECNA (CDN NA $) (BC 3_1KHZ (CDN NA)$)$
TABLE LINEATTR
101 1MR NONE NT 0 11 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_1 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
TABLE PXLAMAP
. LECNA P621 (XLA P621)$
TABLE STDPRTCT
P621 (1) (0) 1
. SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING. CALL TYPE DEFAULT IS NP. PLEASE REFER TO
DOCUMENTATION.
. 61366 61366 NT NP 0 NA $

Figure 220TRAVER example of output for response translations

. SUBTABLE AMAPRT
. KEY NOT FOUND
. DEFAULT VALUE IS: NONE OVRNONE N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 939 2 (59) (1) (84) (0) 2 $
. SUBTABLE HNPACODE
. 6136671002 6136737100 HNPA 0
. 667 667 DN 613 667
TABLE TOFCNAME
613 667 $
TABLE DNINV
613 667 1002 L HOST 01 0 02 02
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 (44) OPTL N N Y
. SUBTABLE LCASCR
. 613 613
TABLE LCASCRCN
613 L613 (44) OPTL N N Y
. SUBTABLE LCASCR
. 667 667
TABLE PFXTREAT
OPTL NP Y NP UNDT
Checking AIN PFC Trigger Items as PFC is compatible with current call
Checking AIN SDS Trigger Items as SDS is compatible with current call
Checking AIN N11 Trigger Items as N11 is compatible with current call
Checking AIN LNP Trigger Items as LNP is compatible with current call
AIN Info Analyzed TDP: trigger criteria not met.
AIN Term Attempt TDP: no subscribed trigger.
+++ TRAVER: SUCCESSFUL CALL TRACE +++
WARNING: Line Attributes of Originator are being overridden
by those provided by the LARP option from the
corresponding tuple in TABLE TRIGITM
DIGIT TRANSLATION ROUTES

Figure 220TRAVER example of output for response translations

```
1 LINE                  6136671002        ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

+++ TRAVER: SUCCESSFUL CALL TRACE +++

```

32 Automatic_Flexible_Routing trigger

ATTENTION
Trigger AFR can be provisioned in two ways, either by using the trigger item provisioning interface or by using the trigger group provisioning interface. A subscriber (office, customer group, or individual agent) can only subscribe to triggers defined by one provisioning interface, however, a call can encounter triggers provisioned in different provisioning interfaces at different subscription levels.

32.1 General

Trigger automatic flexible routing (AFR) occurs at the Netbusy TDP.

Trigger AFR occurs after the selecting route point in call (PIC) in the originating call model (OCM). Trigger AFR is an entry in the routing list, that occurs when none of the previous routes in the list are available.

32.2 Datafilling steps

Information for completing the datafill for the AFR trigger is presented in this section.

Table 370 provides the trigger definition and subscription tables for trigger AFR.

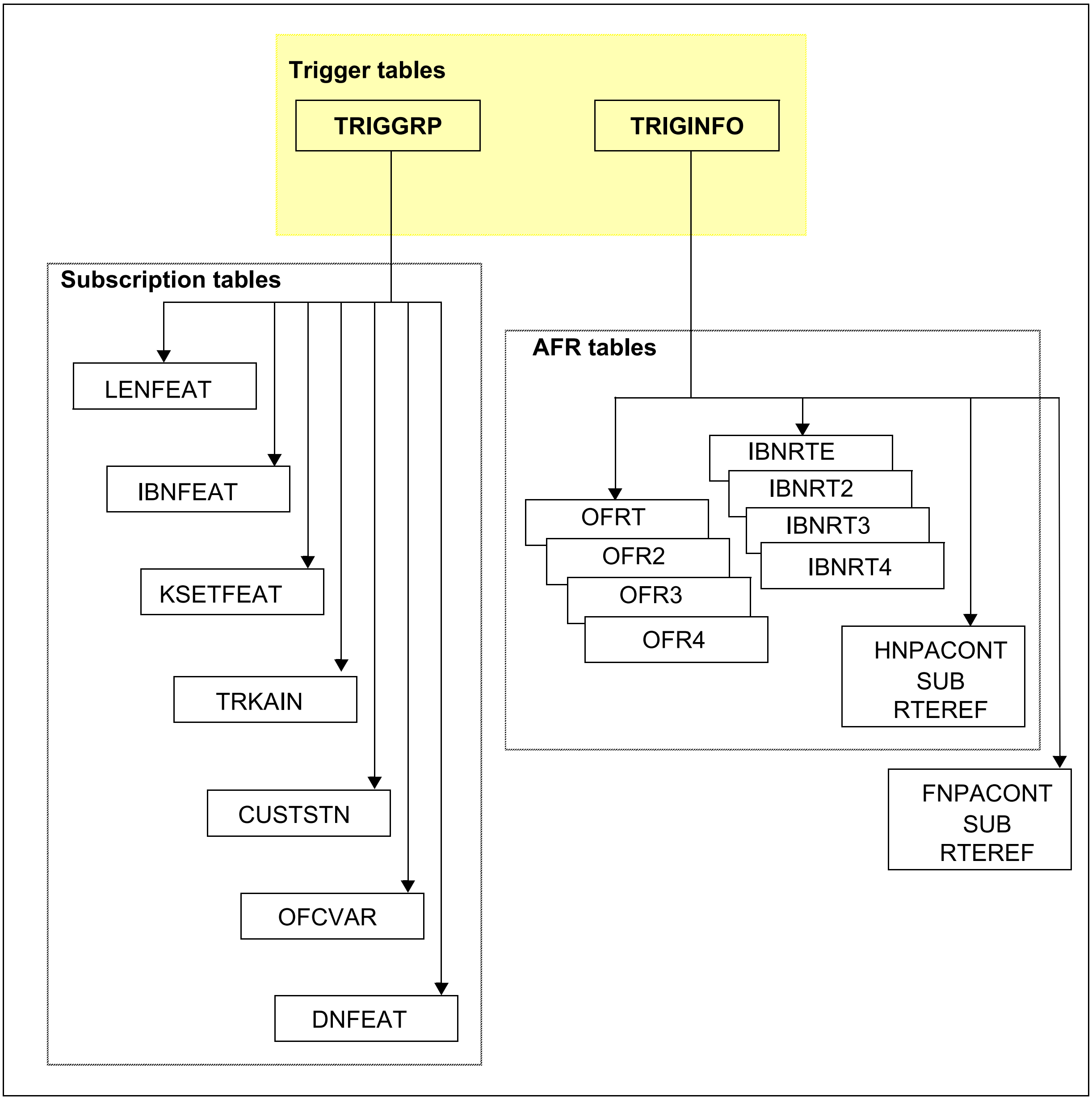
Table 370 AFR trigger definition and subscription table

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Subscription tables	Option	SERVORD
NETBUSY	AFR	CT	TRIGINFO TRIGGRP or TRIGITM OFR tables	Line(POTS)	LENFEAT	AIN	Yes
				Line (MDC, RES)	IBNFEAT	AIN	Yes
				Line (EBS, MFT)	KSETFEAT	AIN	Yes
				DISA DN	DNROUTE		No
				Trunk Group	TRKGRP		No
					TRKAIN		No
				Customer group	CUSTSTN	AIN	No
				Office	OFCVAR OFCTIID	N/A	No

32.2.1 Trigger group provisioning interface

Figure 221 on page 833 shows the datafilling hierarchy required by the AFR trigger.

Figure 221 Datafilling hierarchy for the AFR trigger for the trigger group provisioning interface.



32.2.1.1 Step 1: Datafilling table TRIGINFO

An INFONAME defines the action information, that is, what action the SSP takes if a call encounters a trigger and the criteria are met. For AIN Service Enablers, the SSP must send a query to the off-board processor using a particular messaging protocol and transport.

Although INFONAME in TRIGGRP is always set to NIL in the trigger group provisioning model for the AFR trigger, the TRIGINFO table is still required because the AFR routing tables retrieve the information from the TRIGINFO table.

Assumptions regarding the datafilling of the ACTION field in all triggering examples are described in Chapter 17: “Provisioning assumptions” on page 575.

Table 371 shows a sample tuple for the TRIGINFO table.

Table 371 Sample tuple for table TRIGINFO

INFONAME	ACTION	OPTIONS
AINSIM	EVENT TCAP R02 SS7 AINJAZZ DFLT	$

32.2.1.2 Step 2: Datafilling AFR tables

The AFR tables are as follows:

- OFRT
- OFR2
- OFR3
- OFR4
- IBNRTE
- IBNRT2
- IBNRT3
- IBNRT4
- HNPACONT SUB RTEREF
- FNPACONT SUB RTEREF

In order for AFR to be applied to a route list, the AFR selector must be added to the route list in the appropriate route table.

> ***Note:*** It is possible to specify AFR at any location in the route list. Once the SSP has encountered AFR in the route list, any entries following it are ignored. However, as required by TR-NWT-001284, AFR should take place only if all other routes in the route list are busy. Thus, in order to meet this requirement, AFR must be the last entry in the route list.

The tuple in Table 372 illustrates AFR examples 1 to 3.

Table 372 Sample tuple using AFR selector in HNPACODE SUB RTEREF

RTE	ROUTELIST
801	(S D AIN_BUZY_TRK) (AFR AINSIM) $

The tuple in Table 373 illustrates AFR example 4.

Table 373 Sample tuple using AFR selector in table OFR2

RTE	ROUTELIST
52	(S D AIN_BUSY_TRK) (AFR AINSIM) $

32.2.1.3 Step 3: Datafilling table TRIGGRP

An AINGRP that contains the AFR trigger must be defined in table TRIGGRP before it can be referenced in any subscription table. Table TRIGGRP is keyed on the trigger group name and on the trigger detection point (TDP). You must create a name for the AFR AINGRP (up to 16 characters). The TDP for AFR trigger type must be NETBUSY.

- In response to the TRIGGER prompt, enter AFR.
- In response to the CRITERIA prompt, the following criteria can be entered for the AFR trigger:

  Call Type (CT) criterion: This criterion is optional. In response to the CT prompt, enter VBINFO for voice and CMDATA for data. If the CT criterion is not specified, then both voice and data calls will trigger if all other criteria are satisfied.

  When all desired criteria have been entered, enter $ at the CRITERIA prompt.
- In response to the INFONAME prompt, enter NIL.

The following four AFR AIN groups (AINGRP) are defined in table TRIGGRP for the AFR examples. (See Table 374 on page 836.) Although they are defined to have the same behaviour, different AINGRP names are chosen to show more clearly (from the TRAVER trace) whether the triggering occurs because of individual, group, or office subscription.

Note: Whether the AFR trigger is subscribed on an individual, group, or office basis should not affect the triggering behaviour.

Table 374 Sample AFR AINGRP definition in table TRIGGRP

KEY		TRIGDATA		
TRIGNAME	**TDP**	**TRIGGER**	**CRITERIA**	**INFONAME**
AFRLINE	NETBUSY	AFR	$	NIL$
AFRTRK	NETBUSY	AFR	$	NIL$
AFRGRP	NETBUSY	AFR	$	NIL$
AFROFFICE	NETBUSY	AFR	$	NIL$

32.2.1.4 Step 4: Datafilling AFR subscription tables

The AFR AINGRP defined in Step 3 can be subscribed by an originating agent on an individual, group, or office basis using the AIN option, or through table DNFEAT for a DISA DN. The precedence is individual -> group -> office.

32.2.1.4.1 Subscribing to AFR on individual line basis For a POTS line, the subscription tuple is added to table LENFEAT.

For an MDC or RES line, the subscription tuple is added to table IBNFEAT.

For a EBS or MFT set, the subscription tuple is added to table KSETFEAT.

Both table editor and the SERVORD utility can be used to assign, change, or delete the AIN option for lines. See Chapter 16: “SERVORD guidelines” on page 551 for details.

The tuple in Table 375 is used in example 1 and shows a MDC line (7224585) with Line Equipment Number (LEN) HOST 02 0 00 12 that has subscribed to the AIN AFRLINE trigger group.

Table 375 Sample AIN POTS line subscription in table LENFEAT (AFR example 1)

LEN	PTY	DF	FEATURE	DATA
HOST 02 0 00 12	S	AIN	AIN	AFRLINE

The tuples in Table 376 and Table 377 are used in example 2 and show that an IBNTI trunk group called ISUPIBNIC has subscribed to AIN AFRTRK trigger group.

Table 376 Sample trunk group subscription table TRKGRP (AFR example 2)

GRPKEY	GRPINFO	
	GRPTYP	Other fields
ISUPIBNIC	IBNTI	...

Table 377 Sample AIN trunk group subscription table TRKAIN

GRPKEY	AINGRP
ISUPIBNIC	AFRTRK

In example 3, the originating agent belongs to customer group COMKOADK. For calls to trigger at AFR trigger, the AIN trigger group AFRGRP is assigned to customer group COMKODAK. Since COMKODAK has subscribe to AIN, every member of the customer group is affected. This means that the line (HOST 00 0 07 4) in example 1 and the trunk (ISUPIBNIC) in example 2 have also subscribed to the AFRGRP on the group basis.

32.2.1.4.2 Subscribing to AFR on a DISA DN basis A DISA DN can subscribe to AIN in table DNFEAT.

32.2.1.4.3 Subscribing to AFR on individual trunk basis A trunk group can subscribe to AIN in table TRKAIN.

32.2.1.4.4 Subscribing to AFR on group basis A customer group can subscribe to AIN in table CUSTSTN. All lines and trunks in the customer group trigger if the call encounters a route list where AFR has been datafilled.

Table 378 shows a sample customer group subscription.

Table 378 Sample AIN Customer Group Subscription in table CUSTSTN

KEY		OPTION
CUSTNAME	OPTNAME	
COMKODAK	AIN	AIN AFRGRP

32.2.1.4.5 Subscribing to AFR on office basis All lines and trunks in the office trigger if the call encounters a route list where AFR has been datafilled.

Note: For a trunk, group, or office, use table editor to subscribe to AIN.

The tuple in Table 379 on page 838 allows the entire office to subscribe to AIN AFROFFICE on an office basis. Thus, every agent in the office is affected, that is, the line in example 1 and the trunk in example 2 have also subscribed to the AFROFFICE on an office basis.

Table 379 Sample AIN office subscription in table OFCVAR

PARMNAME	PARMVAL
AIN_OFFICE_TRIGGRP	AFROFFICE

32.2.1.5 Step 5: Verifying with TRAVER

Once the datafill has been set up for the AFR trigger, the TRAVER utility can be used to verify the AIN Service Enablers triggering (other than for a DISA DN).

Because the AFR trigger occurs at the Network Busy (NETBUSY) trigger detection point (TDP), it is encountered only if all routes in the route list are busy. Since TRAVER is a call simulation, routes are not busy, and criteria for this trigger are never met. Therefore, if AFR is encountered in the route list, then subscription to the AFR trigger is checked. If the AFR trigger is subscribed, an informational message is displayed indicating that triggering would take place if all routes were busy. The corresponding TRIGGRP and TRIGINFO table entries are displayed, and simulation of call processing continues.

32.2.2 AFR examples

The following examples are selected to illustrate the datafilling required with the trigger group interface for the AFR trigger.

32.2.2.1 Example 1: Individual subscription basis (line)

From an MDC line 7224585, dial 92870000. The line has subscribed to the AFR trigger on an individual basis (AFRLINE), on a group basis (AFRGRP), and on an office basis (AFROFFICE). According to the processing precedence, the call triggers at AFRLINE in this example.

32.2.2.2 Example 2: Individual subscription basis (trunk)

From incoming trunk ISUPIBNIC, digits 92870000 are received (9 is the private environment access code). The incoming trunk ISUPIBNIC has subscribed to AFR trigger on an individual basis (AFRTRK), on a group basis (AFRGRP), and on an office basis (AFROFFICE). According to the processing precedence, the call triggers at AFRTRK.

32.2.2.3 Example 3: Group subscription basis

From an MDC line 7224012, dial 92870000, where 9 is the private environment access code. The line has subscribed to the AFR trigger on a group basis (AFRGROUP) and on an office basis (AFROFFICE). According to the processing precedence, the call triggers at AFRGROUP.

32.2.2.4 Example 4: Office subscription basis

From a POTS line 6210000, dial 2870000. The line has subscribed to the AFR trigger on an office basis (AFROFFICE), and the call triggers at AFROFFICE.

Figure 222 through Figure 229 represent traver examples in both the trigger group and trigger item provisioning interfaces.

Figure 222 TRAVER for trigger group AFR (example 1) (line)

```
>TRAVER L 6137224011 92321234 B
TABLE IBNLINES
HOST 00 0 02 18 0 DT STN IBN 7224011 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
HOST 00 0 02 18 0 AIN AIN AFRLINE
TABLE CUSTSTN
COMKODAK AIN AIN AFRGRP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP AFROFFICE
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
```

Figure 222 TRAVER for trigger group AFR (example 1) (line) (Continued)

```
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 23 250 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 232 239 LRTE 30
 . SUBTABLE RTEREF
 .   30 N D ISUPITOG 3 708 N
 .      AFR ROCKINFO
TABLE TRIGGRP
AFRLINE NETBUSY
 . AFR $ NIL
Trigger AIN AFR is applicable to individual IBN line.
 .  . TABLE TRIGINFO
 .  . ROCKINFO EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137224011 6137224011 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Network Busy TDP: trigger criteria met.
Querying the database will occur if network is busy.
Use the AINMQG option to save the query to a file for use in TstQuery.
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL NP N DD UNDT
TABLE CLSVSCRC
KEY NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
TABLE FNPA7DIG
TUPLE NOT FOUND
```

Figure 222 TRAVER for trigger group AFR (example 1) (line) (Continued)

```
AIN Info Analyzed TDP: no subscribed trigger.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


AIN Network Busy TDP: trigger criteria met.
Querying the database will occur if network is busy.
Use the AINMQG option to save the query to a file for use in TstQuery.

DIGIT TRANSLATION ROUTES

1 ISUPITOG              7081234            ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

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

Figure 223 TRAVER for trigger goup AFR (example 2) (trunk)

```
>TRAVER TR ISUPIBNIC 92321234 AIN AINCHG 6137233224 B
TABLE TRKGRP
ISUPIBNIC IBNTI 0 ELO NCRT COMKODAK 0 0 6137224111 ANSDISC 0 Y N N N N N N
0 0 N
    N N N Y FGD Y N $ NATL $
 .  . TABLE TRKAIN
 .  . ISUPIBNIC AFRTRK
TABLE CUSTSTN
COMKODAK AIN AIN AFRGRP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP AFROFFICE
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
```

Figure 223 TRAVER for trigger goup AFR (example 2) (trunk) (Continued)

```
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 23 250 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 232 239 LRTE 30
 . SUBTABLE RTEREF
 .   30 N D ISUPITOG 3 708 N
 .      AFR ROCKINFO
TABLE TRIGGRP
AFRTRK NETBUSY
 . AFR $ NIL
Trigger AIN AFR is applicable to individual IBN trunk.
 .  . TABLE TRIGINFO
 .  . ROCKINFO EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137233224 6137233224 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Network Busy TDP: trigger criteria met.
Querying the database will occur if network is busy.
Use the AINMQG option to save the query to a file for use in TstQuery.
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL NP N DD UNDT
TABLE CLSVSCRC
KEY NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
TABLE FNPA7DIG
TUPLE NOT FOUND
AIN Info Analyzed TDP: no subscribed trigger.
```

Figure 223 TRAVER for trigger goup AFR (example 2) (trunk) (Continued)

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


AIN Network Busy TDP: trigger criteria met.
Querying the database will occur if network is busy.
Use the AINMQG option to save the query to a file for use in TstQuery.

DIGIT TRANSLATION ROUTES

1 ISUPITOG              7081234            ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 T120

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

Figure 224 TRAVER for trigger group AFR (example 3) (group)

```
>TRAVER L 6137224012 92321234 B
TABLE IBNLINES
HOST 00 0 03 03 0 DT STN IBN 7224012 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN AFRGRP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP AFROFFICE
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
```

Figure 224 TRAVER for trigger group AFR (example 3) (group) (Continued)

```
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 23 250 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 232 239 LRTE 30
 . SUBTABLE RTEREF
 .   30 N D ISUPITOG 3 708 N
 .      AFR ROCKINFO
TABLE TRIGGRP
AFRGRP NETBUSY
 . AFR $ NIL
Trigger AIN AFR is applicable to customer group.
 .  . TABLE TRIGINFO
 .  . ROCKINFO EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137224012 6137224012 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Network Busy TDP: trigger criteria met.
Querying the database will occur if network is busy.
Use the AINMQG option to save the query to a file for use in TstQuery.
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL NP N DD UNDT
TABLE CLSVSCRC
```

Figure 224 TRAVER for trigger group AFR (example 3) (group) (Continued)

```
KEY NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
TABLE FNPA7DIG
TUPLE NOT FOUND
AIN Info Analyzed TDP: no subscribed trigger.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


AIN Network Busy TDP: trigger criteria met.
Querying the database will occur if network is busy.
Use the AINMQG option to save the query to a file for use in TstQuery.

DIGIT TRANSLATION ROUTES

1 ISUPITOG              7081234            ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

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

Figure 225 TRAVER for trigger group AFR (example 4) (office)

```
>TRAVER L 6136212111 2321234 B
TABLE LINEATTR
0 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP AFROFFICE
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 23 250 N NP 0 NA
```

Figure 225 TRAVER for trigger group AFR (example 4) (office) (Continued)

```
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 232 239 LRTE 30
 . SUBTABLE RTEREF
 .   30 N D ISUPITOG 3 708 N
 .      AFR ROCKINFO
TABLE TRIGGRP
AFROFFICE NETBUSY
 . AFR $ NIL
Trigger AIN AFR is applicable to office.
 .  . TABLE TRIGINFO
 .  . ROCKINFO EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE LENFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6136212111 6136212111 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Network Busy TDP: trigger criteria met.
Querying the database will occur if network is busy.
Use the AINMQG option to save the query to a file for use in TstQuery.
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL NP N DD UNDT
TABLE CLSVSCRC
KEY NOT FOUND
TABLE LATAXLA
TUPLE NOT FOUND
ASSUMED TO BE DEFAULT INTRALATA, INTRASTATE, STD
AIN Info Collected TDP: no subscribed trigger.
TABLE FNPA7DIG
TUPLE NOT FOUND
AIN Info Analyzed TDP: no subscribed trigger.

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

Figure 225 TRAVER for trigger group AFR (example 4) (office) (Continued)

```
AIN Network Busy TDP: trigger criteria met.
Querying the database will occur if network is busy.
Use the AINMQG option to save the query to a file for use in TstQuery.

DIGIT TRANSLATION ROUTES

1 ISUPITOG              7081234            ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

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

Figure 226 TRAVER for trigger item AFR (example 1) (line)

```
>TRAVER L 6137224011 92321234 B
TABLE IBNLINES
HOST 00 0 02 18 0 DT STN IBN 7224011 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
HOST 00 0 02 18 0 AIN AIN TIID (17 AFR2 ON) $
TABLE CUSTSTN
COMKODAK AIN AIN TIID
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
```

Figure 226 TRAVER for trigger item AFR (example 1) (line) (Continued)

```
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 23 250 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 232 239 LRTE 30
 . SUBTABLE RTEREF
 .   30 N D ISUPITOG 3 708 N
 .      AFR ROCKINFO
Checking AIN AFR Trigger Items as AFR is compatible with current call
 .  . TABLE TRIGITM
 .  . 17 AFR2 AFR $ ULK EVENT R01 SS7 E800BELLCORE $
 Warning: SLHR Information taken from TRIGINFO
          reference in routing list.
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137224011 6137224011 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Network Busy TDP: trigger criteria met.
Querying the database will occur if network is busy.
Use the AINMQG option to save the query to a file for use in TstQuery.
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL NP N DD UNDT
TABLE CLSVSCRC
KEY NOT FOUND
```

Figure 226 TRAVER for trigger item AFR (example 1) (line) (Continued)

```
AIN Info Collected TDP: no subscribed trigger.
TABLE FNPA7DIG
TUPLE NOT FOUND
Checking AIN CDPCODE Trigger Items as CDPCODE is compatible with current
call
AIN Info Analyzed TDP: trigger criteria not met.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


AIN Network Busy TDP: trigger criteria met.
Querying the database will occur if network is busy.
Use the AINMQG option to save the query to a file for use in TstQuery.

DIGIT TRANSLATION ROUTES

1 ISUPITOG              7081234            ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

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

Figure 227 TRAVER for trigger item AFR (example 2) (trunk)

```
>TRAVER TR ISUPIBNIC 92321234 AIN AINCHG 6137233224 B
TABLE TRKGRP
ISUPIBNIC IBNTI 0 ELO NCRT COMKODAK 0 0 6137224111 ANSDISC 0 Y N N N N N N
0 0 N
    N N N Y FGD Y N $ NATL $
 .  . TABLE TRKAIN
 .  . ISUPIBNIC TIID (17 AFR2 ON) $
TABLE CUSTSTN
COMKODAK AIN AIN TIID
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
```

Figure 227 TRAVER for trigger item AFR (example 2) (trunk) (Continued)

```
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 23 250 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 232 239 LRTE 30
 . SUBTABLE RTEREF
 .   30 N D ISUPITOG 3 708 N
 .      AFR ROCKINFO
Checking AIN AFR Trigger Items as AFR is compatible with current call
 .  . TABLE TRIGITM
 .  . 17 AFR2 AFR $ ULK EVENT R01 SS7 E800BELLCORE $
 Warning: SLHR Information taken from TRIGINFO
          reference in routing list.
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137233224 6137233224 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Network Busy TDP: trigger criteria met.
Querying the database will occur if network is busy.
Use the AINMQG option to save the query to a file for use in TstQuery.
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL NP N DD UNDT
TABLE CLSVSCRC
```

Figure 227 TRAVER for trigger item AFR (example 2) (trunk) (Continued)

```
KEY NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
TABLE FNPA7DIG
TUPLE NOT FOUND
Checking AIN CDPCODE Trigger Items as CDPCODE is compatible with current
call
AIN Info Analyzed TDP: trigger criteria not met.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


AIN Network Busy TDP: trigger criteria met.
Querying the database will occur if network is busy.
Use the AINMQG option to save the query to a file for use in TstQuery.

DIGIT TRANSLATION ROUTES

1 ISUPITOG              7081234            ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 T120

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

Figure 228 TRAVER for trigger item AFR (example 3) (group)

```
>TRAVER L 6137224012 92321234 B
TABLE IBNLINES
HOST 00 0 03 03 0 DT STN IBN 7224012 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN TIID
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
```

Figure 228 TRAVER for trigger item AFR (example 3) (group) (Continued)

```
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 23 250 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 232 239 LRTE 30
 . SUBTABLE RTEREF
 .   30 N D ISUPITOG 3 708 N
 .      AFR ROCKINFO
Checking AIN AFR Trigger Items as AFR is compatible with current call
 .  . TABLE CUSTTIID
 .  . COMKODAK 17 AFR3 ON
 .  . TABLE TRIGITM
 .  . 17 AFR3 AFR $ ULK EVENT R01 SS7 E800BELLCORE $
 Warning: SLHR Information taken from TRIGINFO
          reference in routing list.
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE IBNFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137224012 6137224012 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Network Busy TDP: trigger criteria met.
Querying the database will occur if network is busy.
Use the AINMQG option to save the query to a file for use in TstQuery.
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
```

Figure 228 TRAVER for trigger item AFR (example 3) (group) (Continued)

```
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL NP N DD UNDT
TABLE CLSVSCRC
KEY NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
TABLE FNPA7DIG
TUPLE NOT FOUND
Checking AIN CDPCODE Trigger Items as CDPCODE is compatible with current
call
AIN Info Analyzed TDP: trigger criteria not met.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


AIN Network Busy TDP: trigger criteria met.
Querying the database will occur if network is busy.
Use the AINMQG option to save the query to a file for use in TstQuery.

DIGIT TRANSLATION ROUTES

1 ISUPITOG              7081234            ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

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

Figure 229 TRAVER for trigger item AFR (example 4) (office)

```
>TRAVER L 6136212111 2321234 B
TABLE LINEATTR
0 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
```

Figure 229 TRAVER for trigger item AFR (example 4) (office) (Continued)

```
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 23 250 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 232 239 LRTE 30
 . SUBTABLE RTEREF
 .   30 N D ISUPITOG 3 708 N
 .      AFR ROCKINFO
Checking AIN AFR Trigger Items as AFR is compatible with current call
 .  . TABLE OFCTIID
 .  . 17 AFR1 ON
 .  . TABLE TRIGITM
 .  . 17 AFR1 AFR $ ULK EVENT R01 SS7 E800BELLCORE $
 Warning: SLHR Information taken from TRIGINFO
          reference in routing list.
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE LENFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6136212111 6136212111 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Network Busy TDP: trigger criteria met.
Querying the database will occur if network is busy.
Use the AINMQG option to save the query to a file for use in TstQuery.
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL NP N DD UNDT
```

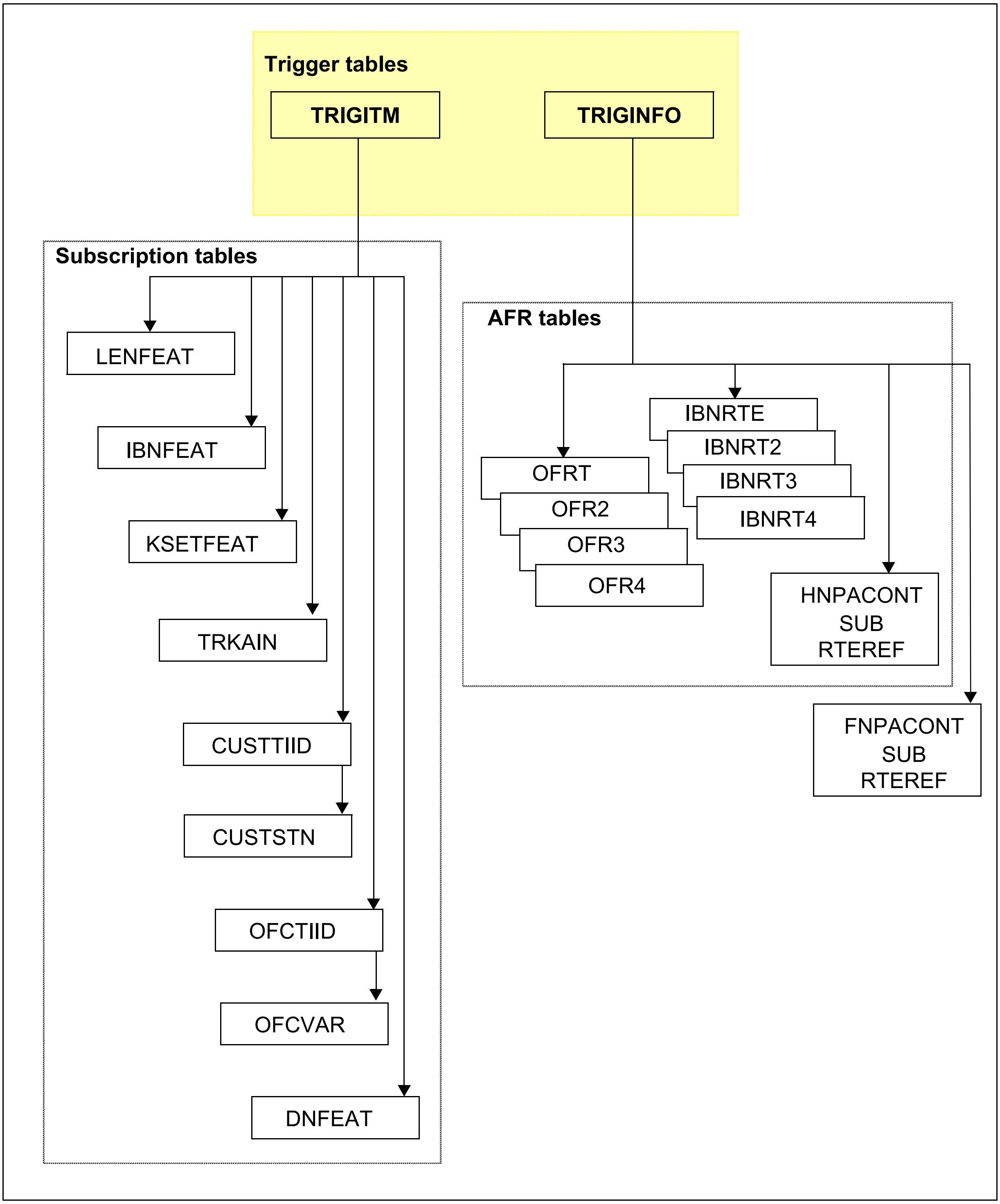
Figure 229 TRAVER for trigger item AFR (example 4) (office) (Continued)

```
TABLE CLSVSCRC
KEY NOT FOUND
TABLE LATAXLA
TUPLE NOT FOUND
ASSUMED TO BE DEFAULT INTRALATA, INTRASTATE, STD
AIN Info Collected TDP: no subscribed trigger.
TABLE FNPA7DIG
TUPLE NOT FOUND
AIN Info Analyzed TDP: no subscribed trigger.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


AIN Network Busy TDP: trigger criteria met.
Querying the database will occur if network is busy.
Use the AINMQG option to save the query to a file for use in TstQuery.

DIGIT TRANSLATION ROUTES

1 ISUPITOG              7081234            ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

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

32.2.3 Trigger item provisioning interface

Figure 230 on page 856 shows the datafilling hierarchy required by the AFR trigger.

Figure 230 Datafilling hierarchy for the AFR trigger for the trigger item provisioning interface.



32.2.3.1 Step 1: Datafilling table TRIGINFO

An INFONAME defines the action information, that is, what action the SSP takes if a call encounters a trigger and the criteria are met. For AIN Service Enablers, the SSP must send a query to the off-board processor using a particular messaging protocol and transport.

For the AFR trigger, all of the SLHR information is taken from a tuple defined in TRIGINFO which is used to datafill the AFR routing tables.

> ***Note:*** This is an exception to the regular provisioning of the SLHR information for the trigger item provisioning interface.

Assumptions regarding the datafilling of the ACTION field in all triggering examples are described in Chapter 17: “Provisioning assumptions” on page 575.

Table 380 shows a sample tuple for the TRIGINFO table.

Table 380 Sample tuple for table TRIGINFO

INFONAME	ACTION	OPTIONS
AINSIM	EVENT TCAP R02 SS7 AINJAZZ DFLT	$

32.2.3.2 Step 2: Datafilling AFR tables

The AFR tables are as follows:

- OFRT
- OFR2
- OFR3
- OFR4
- IBNRTE
- IBNRT2
- IBNRT3
- IBNRT4
- HNPACONT SUB RTEREF
- FNPACONT SUB RTEREF

In order for AFR to be applied to a route list, the AFR selector must be added to the route list in the appropriate route table.

> ***Note:*** It is possible to specify AFR at any location in the route list. Once the SSP has encountered AFR in the route list, any entries following it are ignored. However, as required by TR-NWT-001284, AFR should take place

only if all other routes in the route list are busy. Thus, in order to meet this requirement, AFR must be the last entry in the route list.

The tuple in Table 381 illustrates AFR examples 6 to 8.

Table 381 Sample tuple using AFR selector in HNPACODE SUB RTEREF

RTE	ROUTELIST
801	(S D AIN_BUZY_TRK) (AFR AINSIM) $

The tuple in Table 382 illustrates AFR example 9.

Table 382 Sample tuple using AFR selector in table OFR2

RTE	ROUTELIST
52	(S D AIN_BUSY_TRK) (AFR AINSIM) $

32.2.3.3 Step 3: Datafilling table TRIGITM

The AFR trigger type must have a trigger item identification name datafilled in the TRIGITM table. This information indicates the action to be performed by the SSP when the network busy criterion is met.

1. In response to the TDP prompt, enter 17. This is the numeric code for the Network_Busy TDP.
2. In response to the TINAME prompt, enter the trigger item identifier you wish to use. For example, enter AFRTRIG1.
3. In response to the TRIGGER prompt, enter AFR.
4. In response to the CRITERIA subfield prompts, you can enter the Call Type (CT) criterion. This criterion is optional. At the CALLTYPE prompt, enter VBINFO for voice or CMDATA for data. If the CT criterion is not specified, then both voice and data calls will trigger if all other criteria are satisfied.

   When you finish entering the criteria, type $ at the CRITERIA prompt.
5. In response to the STATE field, enter LK or ULK. LK locks (or deactivates) a trigger item; ULK unlocks (or activates) a trigger item.
6. In response to the ACTION prompt, type EVENT. EVENT instructs the SSP to launch a query when the trigger criterion has been satisfied.

7. In response to the Service Logic Host Route (SLHR) subfield prompts, enter the following for the AFR trigger.
   a. In response to the MSGSET prompt, enter R02 or R01.
   b. In response to the TRANSPORT prompt, enter SS7.
   c. In response to the GTT prompt, enter a Global Title Translation variable, for example, AINJAZZ.

      Note: Even though you must enter the SLHR information, the SSP does not used it. When the SSP needs this information, the SSP takes it from the TRIGINFO table.

8. You are prompted for the OPTION field. This field is optional and should not be used for the AFR trigger.

32.2.3.4 Step 4: Datafilling AFR subscription tables

The AFR AINGRP defined in Step 3 can be subscribed by an originating agent on an individual, group, or office basis using the AIN option, or through table DNFEAT for a DISA DN. The precedence is individual -> group -> office.

32.2.3.4.1 Subscribing to AFR on individual line basis For a POTS line, the subscription tuple is added to table LENFEAT.

For an MDC or RES line, the subscription tuple is added to table IBNFEAT.

For a EBS or MFT set, the subscription tuple is added to table KSETFEAT.

Both table editor and the SERVORD utility can be used to assign, change, or delete the AIN option for lines. See Chapter 16: “SERVORD guidelines” on page 551 for details.

The tuple in Table 383 is used in example 6 and shows a MDC line (7224585) with Line Equipment Number (LEN) HOST 02 0 00 12 that has subscribed to the AIN AFRLINE trigger group.

Table 383 Sample AIN POTS line subscription in table LENFEAT (AFR example 6)

LEN	PTY	DF	FEATURE	DATA
HOST 02 0 00 12	S	AIN	AIN	AFRLINE

The tuples in Table 384 and Table 385 are used in example 7 and show that an IBNTI trunk group called ISUPIBNIC has subscribed to AIN AFRTRK trigger group.

Table 384 Sample trunk group subscription table TRKGRP (AFR example 7)

GRPKEY	GRPINFO	
	GRPTYP	Other fields
ISUPIBNIC	IBNTI	...

Table 385 Sample AIN trunk group subscription table TRKAIN

GRPKEY	AINGRP
ISUPIBNIC	AFRTRK

In example 8, the originating agent belongs to customer group COMKOADK. For calls to trigger at AFR trigger, the AIN trigger group AFRGRP is assigned to customer group COMKODAK. Since COMKODAK has subscribe to AIN, every member of the customer group is affected. This means that the line (HOST 00 0 07 4) in example 6 and the trunk (ISUPIBNIC) in example 7 have also subscribed to the AFRGRP on the group basis.

32.2.3.4.2 Subscribing to AFR on a DISA DN basis A DISA DN can subscribe to AIN in table DNFEAT.

32.2.3.4.3 Subscribing to AFR on individual trunk basis A trunk group can subscribe to AIN in table TRKAIN.

32.2.3.4.4 Subscribing to AFR on group basis A customer group can subscribe to AIN in the CUSTSTN and CUSTTIID tables. The CUSTSTN table contains the reserved trigger group TIID in the trigger item provisioning interface. The CUSTTIID table contains the subscription links from the customer groups to the TRIGITM tuples. All lines and trunks in the customer group trigger if the call encounters a route list where AFR has been datafilled.

Table 386 shows a sample customer group subscription.

Table 386 Sample AIN Customer Group Subscription in table CUSTSTN

KEY		OPTION
CUSTNAME	OPTNAME	
COMKODAK	AIN	AIN AFRTIID

32.2.3.4.5 Subscribing to AFR on office basis All lines and trunks in the office trigger if the call encounters a route list where AFR has been datafilled.

The OFCTIID table stores the office-wide subscription links in the trigger item provisioning interface. Do the following steps:

1. You are prompted for the KEY field. The key consists of a TDP and a TINAME.
   a. For the TDP, enter 17.
   b. For the TINAME, enter the same identification name that you entered in item 2 of Section 32.2.3.3 "Step 3: Datafilling table TRIGITM" on page 858
2. In response to the TRIGACT prompt, enter ON to enable the assignment or OFF to disable the assignment.

The tuple in Table 387 allows the entire office to subscribe to AIN AFROFFICE on an office basis. Thus, every agent in the office is affected, that is, the line in example 6 and the trunk in example 7 have also subscribed to the AFROFFICE on an office basis.

Table 387 Sample AIN office subscription in table OFCVAR

PARMNAME	PARMVAL
AIN_OFFICE_TRIGGRP	AFROFFICE

32.2.3.5 Step 5: Verifying with TRAVER

Once the datafill has been set up for the AFR trigger, the TRAVER utility can be used to verify the AIN Service Enablers triggering (other than for a DISA DN).

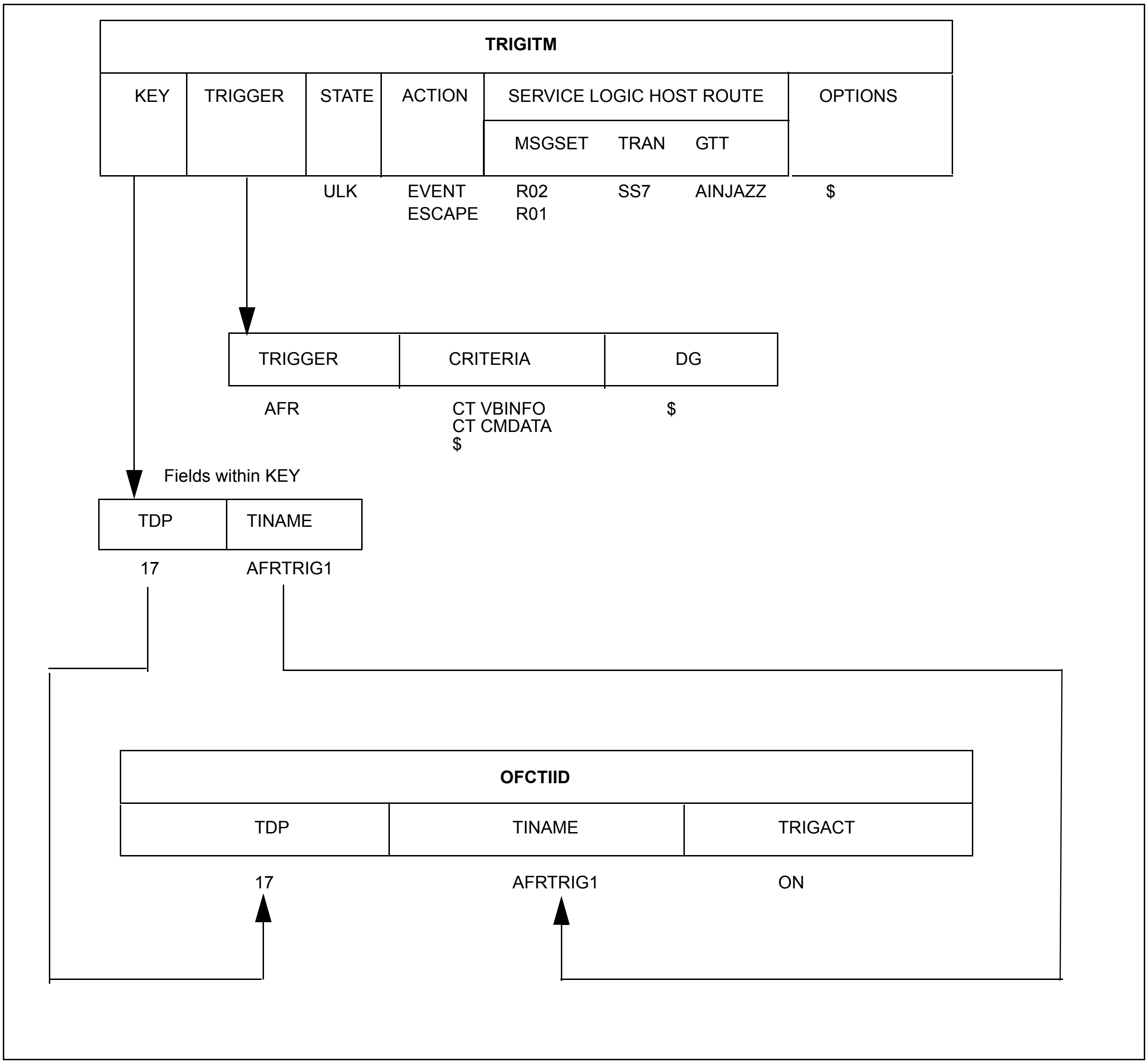
Because the AFR trigger occurs at the Network Busy (NETBUSY) trigger detection point (TDP), it is encountered only if all routes in the route list are busy. Since TRAVER is a call simulation, routes are not busy, and criteria for this trigger are never met. Therefore, if AFR is encountered in the route list, then subscription to the AFR trigger is checked. If the AFR trigger is subscribed, an informational message is displayed indicating that triggering would take place if all routes were busy. The corresponding TRIGITM and TRIGINFO table entries are displayed, and simulation of call processing continues.

32.2.3.6 Sample AFR datafill

Figure 231 on page 862 illustrates the datafill for this sample call. It also shows the dependencies between the datafilling tables. Apply the instructions already outlined in steps 1 to 4 to add the sample tuples shown in Figure 231 and verify the datafill with TRAVER.

From a line (DN 7225028), dial 92132850000 where 9 is a public environment access code. The call triggers at AFR and queries the database.

Figure 231 Sample datafill for the AFR examples



32.2.3.7 AFR examples

The following examples are selected to illustrate the datafilling required for the AFR trigger.

32.2.3.7.1 Example 1: Individual subscription basis (line) From an MDC line 7224585, dial 92870000. The line has subscribed to the AFR trigger on an individual basis (AFRLINE), on a group basis (AFRGRP), and on an office basis (AFROFFICE). According to the processing precedence, the call triggers at AFRLINE in this example.

32.2.3.7.2 Example 2: Individual subscription basis (trunk)

From incoming trunk ISUPIBNIC, digits 92870000 are received (9 is the private environment access code). The incoming trunk ISUPIBNIC has subscribed to AFR trigger on an individual basis (AFRTRK), on a group basis (AFRGRP), and on an office basis (AFROFFICE). According to the processing precedence, the call triggers at AFRTRK.

32.2.3.7.3 Example 3: Group subscription basis From an MDC line 7224012, dial 92870000, where 9 is the private environment access code. The line has subscribed to the AFR trigger on a group basis (AFRGROUP) and on an office basis (AFROFFICE). According to the processing precedence, the call triggers at AFRGROUP.

32.2.3.7.4 Example 4: Office subscription basis From a POTS line 6210000, dial 2870000. The line has subscribed to the AFR trigger on an office basis (AFROFFICE), and the call triggers at AFROFFICE.

32.3 Datafill for DCR interworking with AFR trigger (Canadian market only)

Datafill the AFR trigger at the end of the DCR exception routes so that the call hits the AFR trigger when all DCR routes are busy. DCR routes include direct, recommended tandem (when applicable), and exception routes.

Operating company personnel can specify AFR at any location in the route list. When the SSP encounters AFR in the route list, AFR trigger processing begins. The SSP ignores route list entries that follow AFR.

The tuples in Table 388 and Table 389 show how to datafill the AFR trigger for DCR interworking.

Table 388 Sample tuple for table DESTNODE

NET NODE	NPREC	OSID	DIRECT_ ROUTE	EXCEPTION _ROUTE
DCR1 COMC	COMD	1	S TRKGRP5	T OFR2 49 $

Table 389 Sample tuple using AFR selector in table OFR2

RTE	ROUTELIST
49	(S D AIN_BUSY_TRK) (AFR AINSIM) $

33 O_Called_Party_Busy trigger

ATTENTION
Trigger OCPB can be provisioned in two ways, either by using the trigger item provisioning interface or by using the trigger group provisioning interface. A subscriber (office, customer group, or individual agent) can only subscribe to triggers defined by one provisioning interface, however, a call can encounter triggers provisioned in different provisioning interfaces at different subscription levels.

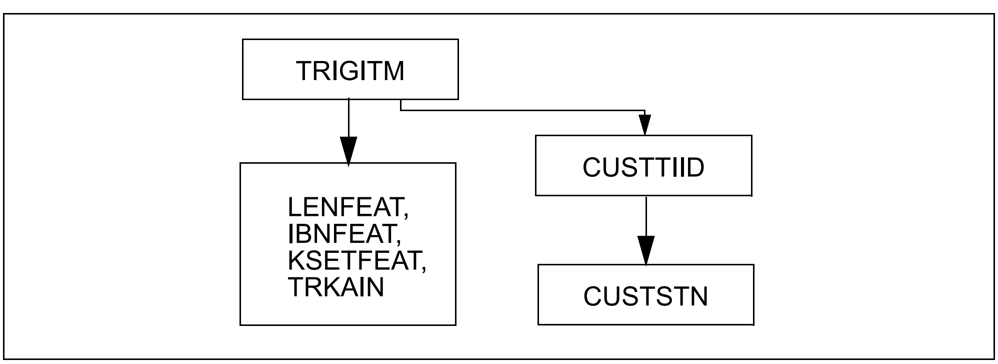
33.1 General

Trigger O_Called_Party_Busy (OCPB) occurs at the O_Called_Party_Busy TDP in the originating call model (OCM). For inter-office calls, this trigger is detected only if a call is transferred to local terminators served by ISUP or PRI trunks. Chapter 54: “AIN O_CPB and O_NOA trigger screening” on page 1113 describes how customer group and individual line triggers are screened.

33.2 Trigger item provisioning interface

Figure 232 shows the datafilling steps required by the OCPB trigger. This assumes that the trigger item provisioning interface for the OCPB trigger has been selected.

Figure 232 Datafilling hierarchy for the OCPB trigger



33.2.1 Step 1: Datafilling table TIESCDIG

This table is used to specify digits required to escape the trigger.

1. At the ESCGRP prompt, type a name for the escape code, such as CRIT1.
2. At the ESCDIGS prompt, type the digits to escape the trigger (for example, 911).

33.2.2 Step 2: Datafilling table TRIGITM

The OCPB trigger type is non-digit based, and trigger item actions name must be datafilled in table TRIGITM. This information indicates the action to be performed by the SSP when the criteria is met.

1. In response to the TDP prompt, enter 19. This is the numeric code for the O_Called_Party_busy TDP.
2. In response to the TINAME prompt, enter the trigger item identifier you wish to use. For example, enter OCPTI1.
3. In response to the TRIGGER prompt, enter OCPB.
4. In response to the criteria prompt, enter any of the following. When all desired criteria have been entered, enter $ at the criteria prompt
   a. Call Type (CT), this criterion is optional. At the CT prompt, enter VBINFO for voice or CMDATA for data. If the CT criterion is not specified, then both voice and data calls will trigger if all other criteria are satisfied.
   b. Escape Called DN (ESCCDN), this criterion is optional. The trigger will not be hit if the called DN is present in an escape list defined in table TIESCDIG. At the ESCGROUP prompt, enter a valid escape name from table TIESCDIG.
   c. Escape International (ESCIDDD), this criterion is optional. The trigger will not be hit if the call is marked as international.
   d. Escape Carrier (ESCCARR), this criterion is optional. The trigger will not be hit if the carrier used to route the call is listed in a pre-defined escape list. At the CARRIER_GROUP prompt, enter a valid escape carrier group.
   e. Escape LATA (ESCLATA), this criterion is optional. The trigger will not be hit if the call is either intra- or inter-LATA toll-based on the subfields. INTRATOLL and INTERTOLL prompts are issued for this criterion.
   f. Escape Feature Interactions (ESCFI), this criterion is optional. The trigger will not be hit if specified feature interactions occur. At the FIS prompt, the desired feature interactions can be entered. Enter a $ when done entering feature interactions.

g. Escape operator (ESCOP), this criterion is optional. The trigger will not be hit if the call is going to an operator.

h. Escape coin (ESCCN), this criterion is optional. At the COIN_CALL_TYPE prompt, enter a coin-originated call type. Adding this criterion restricts whether the coin-originated call types (DD, OA, and NP) will trigger.

i. Escape DP (ESCDP), this criterion is optional. The trigger will not be hit if the DP signaling is used to originate the call.

For additional information on datafilling the criteria for this trigger, see Chapter 54: “AIN O_CPB and O_NOA trigger screening” on page 1113.

5. In response to the STATE field, enter LK or ULK. LK deactivates a trigger item; ULK activates a trigger item.
6. In response to the ACTION prompt, type EVENT. The escape action is not valid for this trigger.
7. In response to the Service Logic Host Route (SLHR) subfield prompts, enter the following for OCPB trigger.

   a. In response to the MSGSET prompt, enter R02, the MSGSET field in the TRIGITM table must be set to “R02”. The O_Called_Party_Busy trigger is not supported if the MSGSET field in the TRIGITM table is set to “R01”.

   b. In response to the TRANSPRT prompt, enter SS7.

   c. In response to the GTT prompt, enter a Global Title Translation variable. For example, AINJAZZ.

8. In response to the OPTION prompt, type $. No options are valid for this trigger.

33.2.3 Step 3: Subscribing an agent to AIN

For all subscription tables, the AINGRPID (trigger group name) is used as the selector to determine whether the trigger item provisioning model is used. When a regular trigger group name is datafilled, the trigger group provisioning model is used. When the keyword TIID is datafilled, the trigger item provisioning model is used. Internally the subscription tables use a vector to store trigger item assignments. When the TIID selector is entered for the AINGRPID, a vector of trigger item assignments are prompted for. One trigger item assignment consists of the following data fields entered at the TILIST prompt:

Note: Enter a $ when done entering trigger assignments.

- TDP, 19 is entered to represent a trigger detection point (TDP)
- TINAME, 8-character alphanumeric string of a valid trigger item in table TRIGITM.
- TRIGACT, trigger activation state (ON or OFF).

The LENFEAT table is used to store subscription to AIN for POTS lines. Some POTS lines will become RES lines when subscribed to AIN. For these lines, the IBNFEAT table will be used to store the AIN subscription. Other lines remain as POTS when subscribed to AIN. For these lines, the LENFEAT table is used to store AIN subscription information. LENFEAT is a read only table.

Table IBNFEAT is almost identical to table LENFEAT in terms of subscription to AIN. It is used to store subscription to AIN for RES and IBN lines.

Similar to table LENFEAT and IBNFEAT, table KSETFEAT is used to store the subscription to AIN for EBS lines and MFT terminals.

Note: All changes to LENFEAT, IBNFEAT and KSETFEAT must be performed through SERVORD.

Table 390 summarizes datafill requirements for the OCPB trigger type.

Table 390 Trigger definition and subscription tables for the OFFHKIMM trigger type

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Sub-scription tables	Option	SERVORD
OCPB	OCPB	ESCDN ESCIDDD ESCCARR ESCLATA ESCFI ESCOP ESCCN ESCDP	TRIGITM TIESCDIG	Line(POTS)	LENFEAT	AIN	YES
				Line (MDC or RES)	IBNFEAT		
				Line (EBS, MFT,BRI)	KSETFEAT		
				Trunk group	TRKAIN		NO
				Customer group	CUSTTIID CUSTSTN		

33.2.4 Step 4: Datafilling table TRKAIN

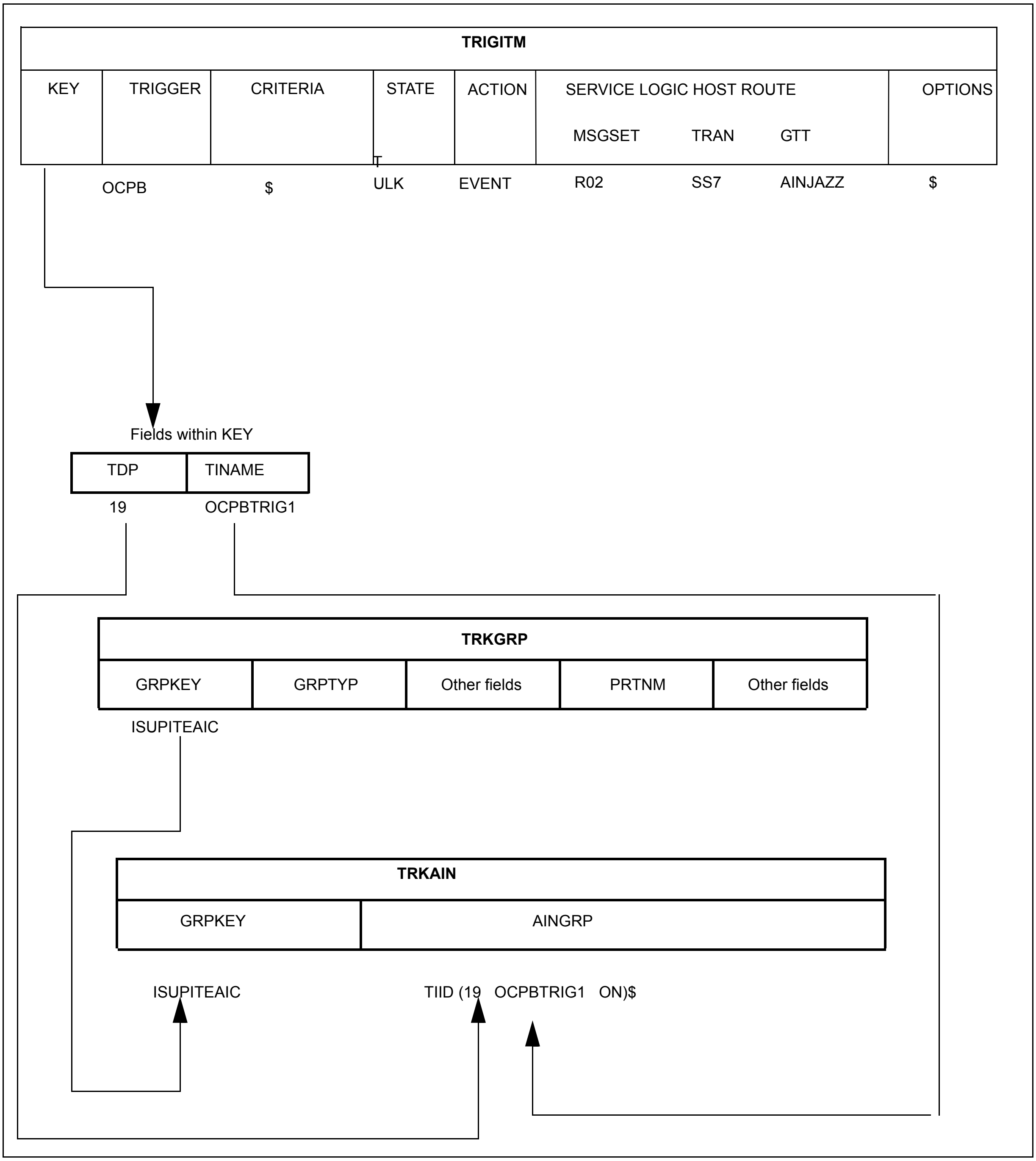
To provision OCPB to a trunk group, use table TRKAIN. Only incoming and two-way trunks can be subscribed to AIN triggers and be provisioned in TRKAIN.

TRKAIN allows MF cellular (type 2A only) trunks groups to be added to TRKAIN. Type 2A MF cellular trunks have a trunk group type of CELL in table TRKGRP. MF cellular type 1/2B trunks (group type PX or P2) are blocked from table TRKAIN.

1. In response to the GRPKEY prompt, type the CLLI name. This name must already exist in the GRPKEY field of table TRKGRP.
2. In response to the AINGRP prompt, type TIID.
3. In response to the TILIST prompt, enter 19 to specify the O_No_Answer TDP, followed by the same TINAME that you entered in the second bullet of step 2 (above), then either ON or OFF to enable or disable the assignment. More than one assignment can be datafilled. Enter a $ when completed entering trigger item assignments.

Figure 234 on page 871 illustrates sample datafill for trigger OCPB.

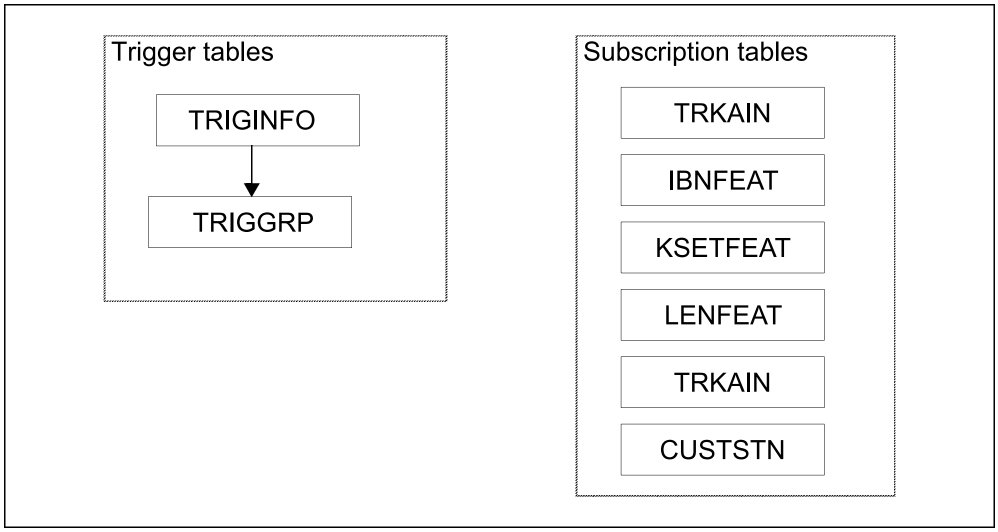
Figure 233 Sample datafill for trigger OCPB



33.3 Trigger group provisioning interfaces

Figure 234 on page 871 shows the datafilling hierarchy for the OCPB trigger.

Figure 234 Datafilling hierarchy for OCPB trigger



33.3.1 Step 1: Datafilling table TRIGINFO

An INFONAME defines the action information, that is, what action the SSP takes if a call encounters a trigger and the criteria are met. For AIN Service Enablers, the SSP must send a query to the off-board processor using a particular messaging protocol and transport.

Assumptions regarding the datafilling of the ACTION field in all triggering examples are described in Chapter 17: “Provisioning assumptions” on page 575 through Chapter 35: “Termination_Attempt trigger” on page 887.

1. In response to the KEY prompt, enter the INFONAME you wish to use, for example “AINSIM”.
2. In response to the ACTION prompt, enter “EVENT”.
3. In response to the PROTOCOL prompt, enter “TCAP”.
4. In response to the MSGSET prompt, enter “R02”, The OCPB trigger is not supported if the MSGSET field is set to R01.
5. In response to the TRANSPRT prompt, enter “SS7”.
6. In response to the GTT prompt, enter a global title translations variable, for example “AINJAZZ”.
7. In response to the GT source prompt, enter a GT source. For example, “DFLT”.
8. In response to the OPTION prompt, enter “$”. No options are supported for this trigger.

33.3.2 Step 2: Datafilling table TRIGGRP

An AINGRP that contains the OCPB trigger must be defined in table TRIGGRP before it can be referenced in any subscription table.

Table TRIGGRP is keyed on the trigger group name and on TDP. You must create a name for the OCPB AINGRP (up to 16 characters). The TDP for the OCPB trigger type must be OCPB.

1. In response to the KEY prompt, enter a TRIGNAME for this OCPB group. For example, OCPBDIG and a TDP (the OCPB for the O_Called_Party_Busy TDP).
2. In response to the TRIGGER prompt, enter OCPB.
3. In response to the criteria prompt, only the Call Type criteria is valid. When all desired criteria have been entered, enter $ at the criteria prompt.

   Call Type (CT) criterion: this criterion is optional. AT the CT prompt, enter VBINFO for voice or CMDATA for data. If the CT criterion is not specified, then both voice and data calls will trigger if all other criteria are satisfied.
4. In response to the INFONAME prompt, enter the INFONAME defined in Section 33.3.1 “Step 1: Datafilling table TRIGINFO” on page 871.
5. More triggers can be assigned to the group. When completed assigning triggers, enter $ at the trigger prompt.

33.3.3 Step 3: Subscribing an agent to AIN

To subscribe the OCPB trigger to a line, see Chapter 16: “SERVORD guidelines” on page 551.

To provision OCPB to a trunk group, use table TRKAIN. Only incoming and two-way trunks can be subscribed to AIN triggers and be provisioned in TRKAIN.

TRKAIN allows MF cellular (type 2A only) trunks groups to be added to TRKAIN. Type 2A MF cellular trunks have a trunk group type of CELL in table TRKGRP.

1. In response to the GRPKEY prompt, type the CLLI name. This name must already exist in the GRPKEY field of table TRKGRP.
2. In response to the AINGRP prompt, type the OCPB group name you defined in Section 33.3.2 “Step 2: Datafilling table TRIGGRP” on page 872.

Table 391 summarizes the datafill requirements for OCPB.

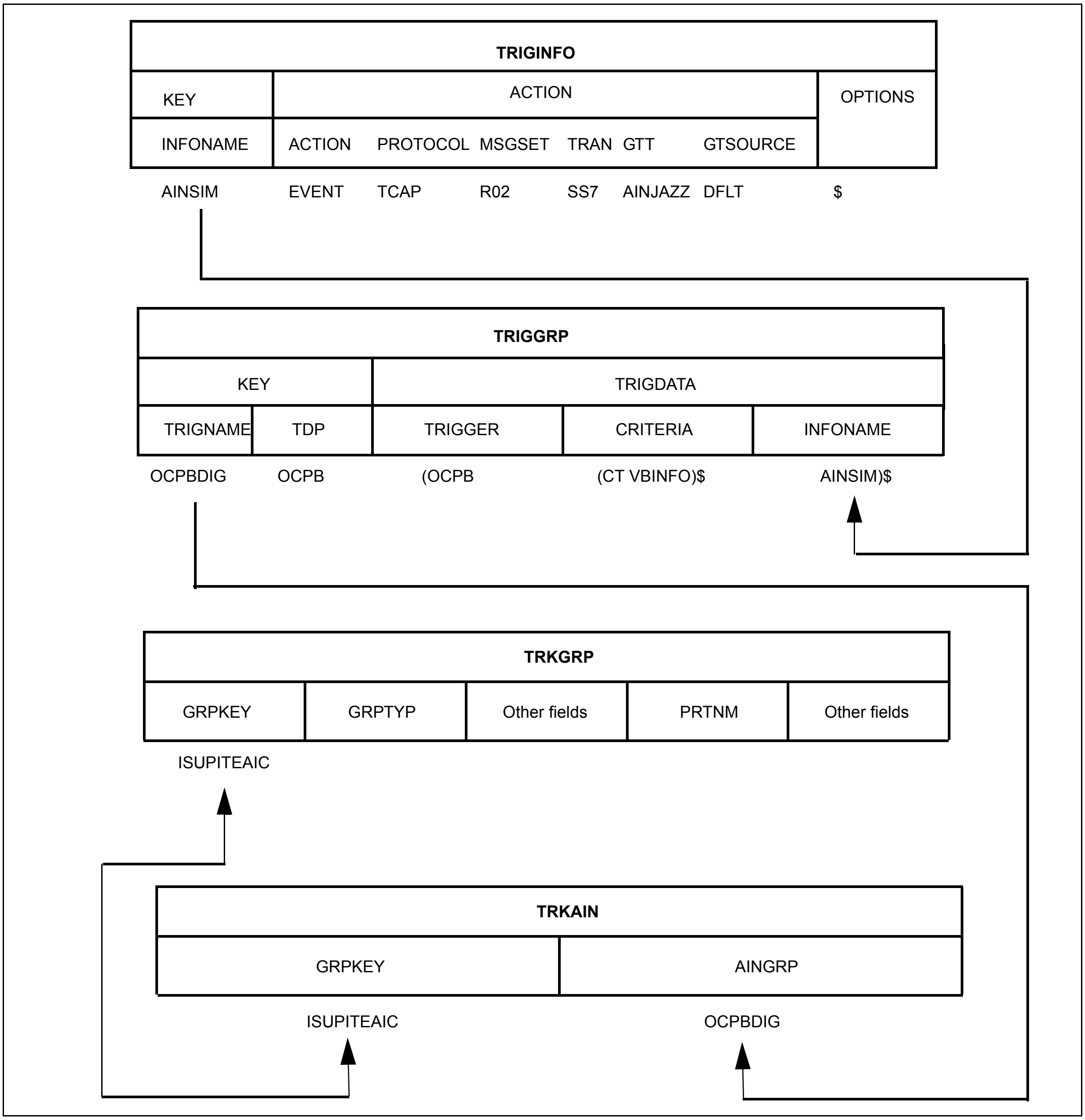
Table 391 Trigger definition and subscription summary

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Subscription tables	Option	SERVORD
OCPB	OCPB	CT	TRIGGRP TRIGINFO	Line (POTS)	LENFEAT	AIN	YES
				Line (MDC, RES)	IBNFEAT		
				Line (EBS, MFT)	KSETFEAT		
				Trunk group (POTS)	TRKAIN		

33.3.4 OCPB example

Figure 235 on page 874 provides some sample datafill for trigger OCPB.

Figure 235 Sample datafill for OCPB



34 O_No_Answer trigger

> **ATTENTION**
> Trigger ONOA can be provisioned in two ways: either by using the trigger item or trigger group provisioning interface. A subscriber (office, customer group, or individual agent) can only subscribe to triggers defined by one provisioning interface, however, a call can encounter triggers provisioned in different provisioning interfaces at different subscription levels.

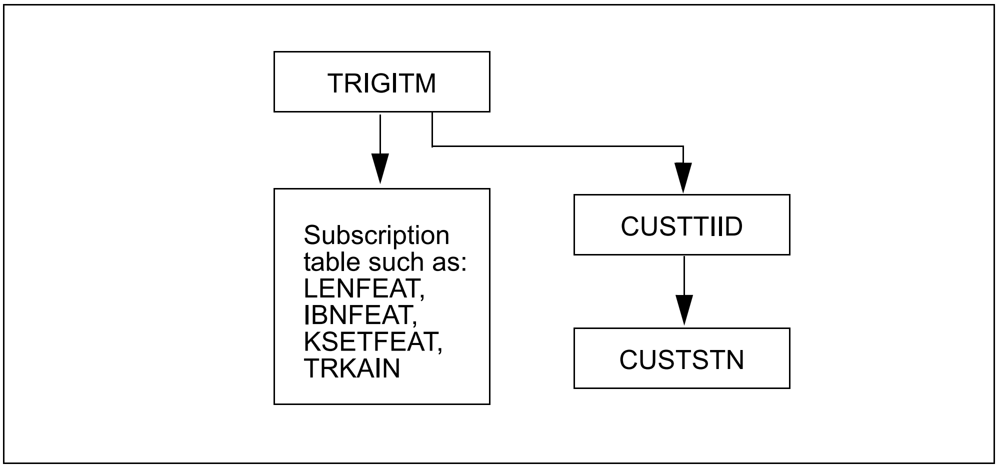
34.1 General

Trigger O_No_Answer (ONOA) is detected when the SSP finds that a user is busy or that a call has been rejected. For inter-office calls, this trigger is detected only when a call is transferred to local terminators served by ISUP or PRI trunks. Chapter 54: "AIN O_CPB and O_NOA trigger screening" on page 1113 describes how customer group and individual line triggers are screened.

34.2 Trigger item provisioning interface

Figure 236 on page 876 shows the datafilling steps required by the ONOA trigger. This assumes that the trigger item provisioning interface for the ONOA trigger has been selected.

Figure 236 Datafilling hierarchy for the ONOA trigger



34.2.1 Step 1: Datafilling table TIESCDIG

This table is used to specify digits required to escape the trigger.

1. At the ESCGRP prompt, type a name for the escape code, such as CRIT1.
2. At the ESCDIGS prompt, type the digits to escape the trigger (for example, 911).

34.2.2 Step 2: Datafilling table TRIGITM

The ONOA trigger type is non-digit based, and a trigger item identification name must be datafilled in table TRIGITM. This information indicates the action to be performed by the SSP when the digits criteria is met.

1. In response to the TDP prompt, enter 33. This is the numeric code for the O_No_Answer TDP.
2. In response to the TINAME prompt, enter the trigger item identifier you wish to use. For example, enter ONATRIG1.
3. In response to the TRIGGER prompt, enter ONOA.
4. In response to the criteria prompt, enter any of the following. When all desired criteria have been entered, enter "$" at the criteria prompt:
   a. Call Type (CT), this criterion is optional. At the CT prompt, enter VBINFO for voice or CMDATA for data. when the CT criterion is not specified, then both voice and data calls will trigger when all other criteria are satisfied.
   b. Escape Called DN (ESCCDN): This criteria is optional. The trigger will not be hit when the called DN is present in an escape list defined in table TIESCDIG. At the ESCGROUP prompt, enter a valid escape name from table TIESCDIG.
   c. Escape International (ESCIDDD): This criteria is optional. The trigger will not be hit when the call is marked as international.

d. Escape Carrier (ESCCARR): This criteria is optional. The trigger will not be hit when the carrier used to route the call is listed in a pre-defined escape list. At the CARRIER_GROUP prompt, enter a valid escape carrier group.

e. Escape LATA (ESCLATA): This criteria is optional. The trigger will not be hit when the call is either intra- or inter-LATA toll-based on the subfields. INTRATOLL and INTERTOLL prompts are issued for this criteria.

f. Escape Feature Interactions (ESCFI): This criteria is optional. The trigger will not be hit when specified feature interactions occur. At the FIS prompt, the desired feature interactions can be entered. Enter a “$” when done entering feature interactions.

g. Escape operator (ESCOP): This criteria is optional. The trigger will not be hit when the call is going to an operator.

h. Escape coin (ESCCN): This criteria is optional. The trigger will not be hit when the originating line is a coin line (CCF, CDF, CSP). At the COIN_CALL_TYPE prompt, the call type can be entered.

i. Escape DP (ESCDP): This criteria is optional. The trigger will not be hit when the DP signaling is used to originate the call.

For additional information on datafilling the criteria for this trigger, see Chapter 54: “AIN O_CPB and O_NOA trigger screening” on page 1113.

5. In response to the STATE field, enter LK or ULK. LK deactivates a trigger item; ULK activates a trigger item.
6. In response to the ACTION prompt, type EVENT. EVENT instructs the SSP to launch a query when the trigger criterion has been satisfied. The escape action is not valid for this trigger.
7. In response to the Service Logic Host Route (SLHR) subfield prompts, enter the following for OCPB trigger.
   - In response to the MSGSET prompt, enter R02, the MSGSET field in the TRIGITM table must be set to “R02”. The O_No_Answer trigger is not supported when the MSGSET field in the TRIGITM table is set to “R01”.
   - In response to the TRANSPRT prompt, enter SS7.
   - In response to the GTT prompt, enter a Global Title Translation variable. For example, AINJAZZ.
8. In response to the OPTION prompt, type $. No options are valid for this trigger.

34.2.3 Step 3: Subscribing an agent to AIN

For all subscription tables, the AINGRPID (trigger group name) is entered at the TILAST (or TIASGN) prompt. Enter a “$” when done entering trigger item assignments. AINGRPID is used as the selector to determine whether the trigger item provisioning model is to be used. when a regular trigger group name is datafilled, the trigger group provisioning model will be used. when the keyword 'TIID' is datafilled, the trigger item provisioning model will be used. Internally the subscription tables will use a vector to store trigger item assignments. when the TIID selector is entered for the AINGRPID, a vector of trigger item assignments will be prompted for. One trigger item assignment consists of the following data fields:

- TDP: "33" is entered to specify the O_No_Answer TDP
- TINAME: 8-character alphanumeric string of a valid trigger item in table TRIGITM.
- TRIGACT: Trigger activation state (ON or OFF).

The LENFEAT table is used to store subscription to AIN for POTS lines. Some POTS lines will become RES lines when subscribed to AIN. For these lines, the IBNFEAT table will be used to store the AIN subscription. Other lines remain as POTS when subscribed to AIN. For these lines, the LENFEAT table is used to store AIN subscription information. LENFEAT is a read only table.

Table IBNFEAT is almost identical to table LENFEAT in terms of subscription to AIN. It is used to store subscription to AIN for RES and IBN lines.

Similar to table LENFEAT and IBNFEAT, table KSETFEAT is used to store the subscription to AIN for EBS lines and MFT terminals.

> ***Note:*** All changes to LENFEAT, IBNFEAT and KSETFEAT must be performed through SERVORD.

Table 392 summarizes datafill requirements for the ONOA trigger type.

Table 392 Trigger definition and subscription tables for the OFFHKIMM trigger type

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Sub-scription tables	Option	SERVORD
ONA	ONOA	ESCDN ESCIDDD ESCCARR ESCLATA ESCFI ESCOP ESCCN ESCDP	TRIGITM TIESCDIG OCCINFO	Line(POTS)	LENFEAT	AIN	SO
				Line (MDC or RES)	IBNFEAT		
				Line (EBS, MFT,BRI)	KSETFEAT		
				Trunk group	TRKAIN		
				Customer group	CUSTTIID CUSTSTN		No

Note 1: The abbreviation SO in the SERVORD column indicates SERVORD only.

Note 2: Trigger ONOA cannot be subscribed on an office-wide basis.

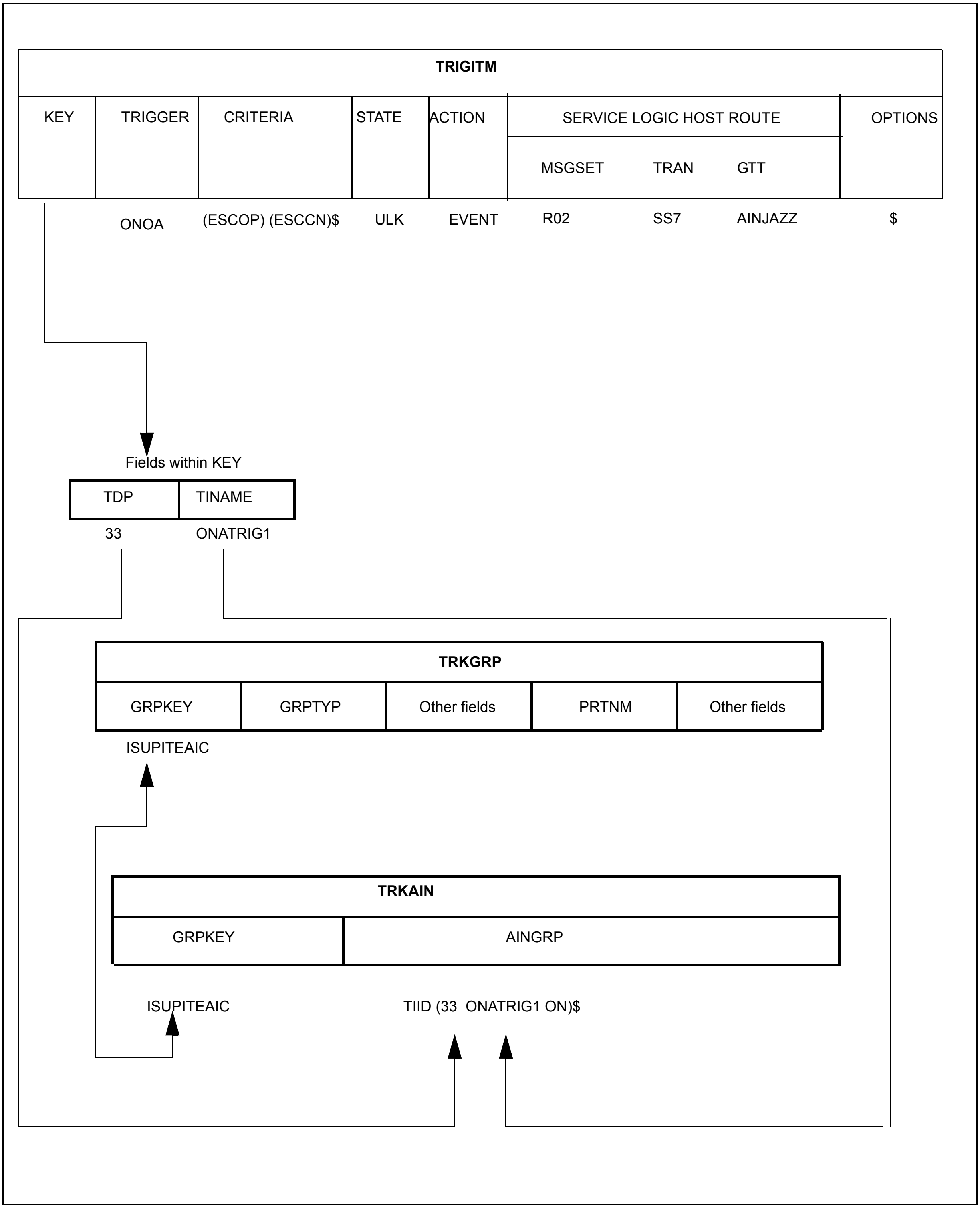
To provision OCPB to a trunk group, use table TRKAIN. Only incoming and two-way trunks can be subscribed to AIN triggers and be provisioned in TRKAIN.

TRKAIN allows MF cellular (type 2A only) trunks groups to be added to TRKAIN. Type 2A MF cellular trunks have a trunk group type of CELL in table TRKGRP. MF cellular type 1/2B trunks (group type PX or P2) are blocked from table TRKAIN.

1. In response to the GRPKEY prompt, type the CLLI name. This name must already exist in the GRPKEY field of table TRKGRP.
2. In response to the AINGRP prompt, type TIID.
3. In response to the TILIST prompt, enter “33” to specify the O_No_Answer TDP, followed by the same TINAME that you entered in the second bullet of step 2 (above), then either “ON” or “OFF” to enable or disable the assignment. More than one assignment can be datafilled. Enter a “$” when completed entering trigger item assignments.

Figure 237 on page 880 illustrates some sample datafill for the ONOA trigger.

Figure 237 Sample datafill for the ONOA trigger



To datafill ONOA to a customer group, table CUSTTIID must be used:

1. In response to the CUSTNAME prompt, enter a valid customer group name from table CUSTENG. For example “COMKODAK”.
2. In response to the TDP prompt, enter “19”. This is used to specify the O_Called_Party_Busy TDP.
3. In response to the TINAME prompt, enter a trigger item name from table TRIGIT. For example “OCPBTI1.
4. In response to the TRIGACT prompt, enter the activation state, “ON” or “OFF”.

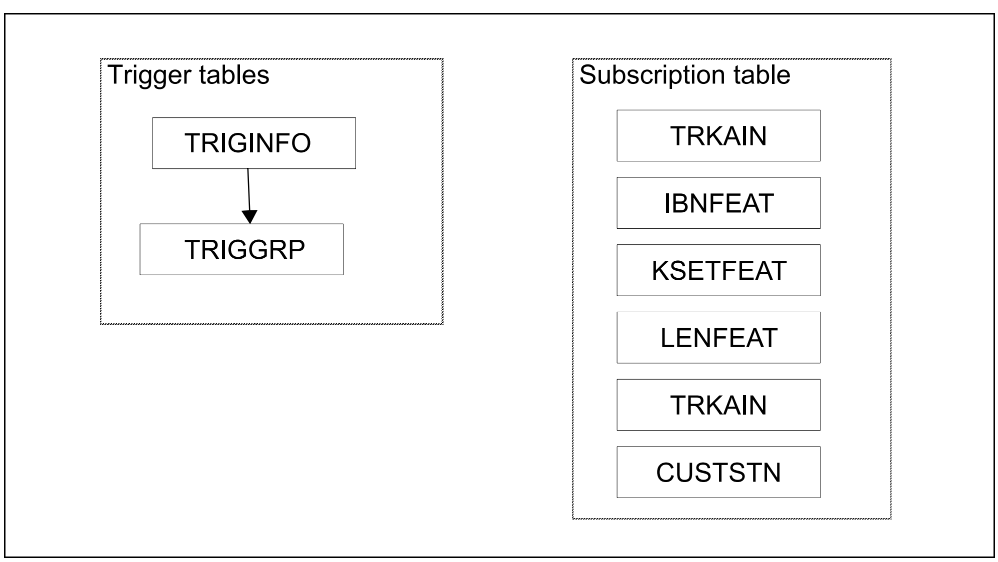
To subscribe ONOA to a customer group, table CUSTSTN must also be used. This table acts as an interface selector for the customer group when using the Trigger Items data model.

1. In response to the CUSTNAME prompt, enter a valid customer group name. This name is taken from table CUSTENG. For example, COMKODAK.
2. In response to the OPTNAME, enter an option. For example, “AIN”.
3. In response to the OPTION prompt, enter an option. For example, “AIN”.
4. In response to the AINGRP prompt, enter “TIID, This acts as a selector to the trigger item provisioning interface.

34.3 Trigger group provisioning interface

Figure 238 shows the datafilling hierarchy for the ONOA trigger.

Figure 238 Datafilling hierarchy for ONOA trigger



34.3.1 Step 1: Datafilling table TRIGINFO

An INFONAME defines the action information, that is, what action the SSP takes when a call encounters a trigger and the criteria are met. For AIN Service Enablers, the SSP must send a query to the off-board processor using a particular messaging protocol and transport.

Assumptions regarding the datafilling of the ACTION field in all triggering examples are described in Chapter 17: “Provisioning assumptions” on page 575 through Chapter 35: “Termination_Attempt trigger” on page 887.

1. In response to the KEY prompt, enter the INFONAME you wish to use, for example “AINSIM”.
2. In response to the ACTION prompt, enter “EVENT”.
3. In response to the PROTOCOL prompt, enter “TCAP”.
4. In response to the MSGSET prompt, enter “R02”, The OCPB trigger is not supported when the MSGSET field is set to R01.
5. In response to the TRANSPRT prompt, enter “SS7”.
6. In response to the GTT prompt, enter a global title translations variable, for example “AINJAZZ”.
7. In response to the GT source prompt, enter a GT source. For example, “DFLT”.
8. In response to the OPTION prompt, enter “$”. No options are supported for this trigger.

34.3.2 Step 2: Datafilling table TRIGGRP

An AINGRP that contains the ONOA trigger must be defined in table TRIGGRP before it can be referenced in any subscription table.

Table TRIGGRP is keyed on the trigger group name and on TDP. You must create a name for the ONOA AINGRP (up to 16 characters). The TDP for the ONOA trigger type must be ONOA.

1. In response to the KEY prompt, enter a TRIGNAME for this ONOA group. For example, “ONADIG” and a TDP (the ONOA for the O_Called_Party_Busy TDP).
2. In response to the TRIGGER prompt, enter “ONOA”.
3. In response to the criteria prompt, only the Call Type criteria is valid. When all desired criteria have been entered, enter “$” at the criteria prompt.

   Call Type (CT) criterion: this criterion is optional. AT the CT prompt, enter VBINFO for voice or CMDATA for data. when the CT criterion is not specified, then both voice and data calls will trigger when all other criteria are satisfied.

4. In response to the INFONAME prompt, enter the INFONAME defined in "Step 1: Datafilling table TRIGINFO" on page 882.
5. More triggers can be assigned to the group. When completed assigning triggers, enter "$" at the trigger prompt.

34.3.3 Step 3: Subscribing an agent to AIN

The ONOA trigger can be subscribed to a line by assigning the ONOA option with SERVORD. For example,

```
SERVORD> ado $ 7237142 AIN ONADIG
```

TRKAIN is used to provision individual (non-office wide) AIN triggers to trunk groups. Only incoming and two-way trunks can be subscribed to AIN triggers and be provisioned in TRKAIN.

TRKAIN allows MF cellular (type 2A only) trunks groups to be added to TRKAIN. Type 2A MF cellular trunks have a trunk group type of CELL in table TRKGRP. MF cellular type 1/2B trunks (group type PX or P2) are blocked from table TRKAIN.

1. In response to the GRPKEY prompt, type the CLLI name. This name must already exist in the GRPKEY field of table TRKGRP.
2. In response to the AINGRP prompt, type the ONA group name you defined in "Step 2: Datafilling table TRIGGRP" on page 882.

To subscribe ONA to a customer group, table CUSTSTN must be datafilled:

1. In response to the CUSTNAME prompt, enter a valid customer group name from table CUSTENG. For example, "COMKODAK".
2. IN response to the OPTNAME prompt, enter an option. For example "AIN".
3. In response to the OPTION prompt, enter an option. For example, "AIN".
4. In response to the AINGRP prompt, enter a trigger group from table TRIGGRP. For example, "ONADIG".

The ONOA trigger cannot be subscribed office-wide.

Table 393 summarizes the datafill requirements for the ONOA trigger.

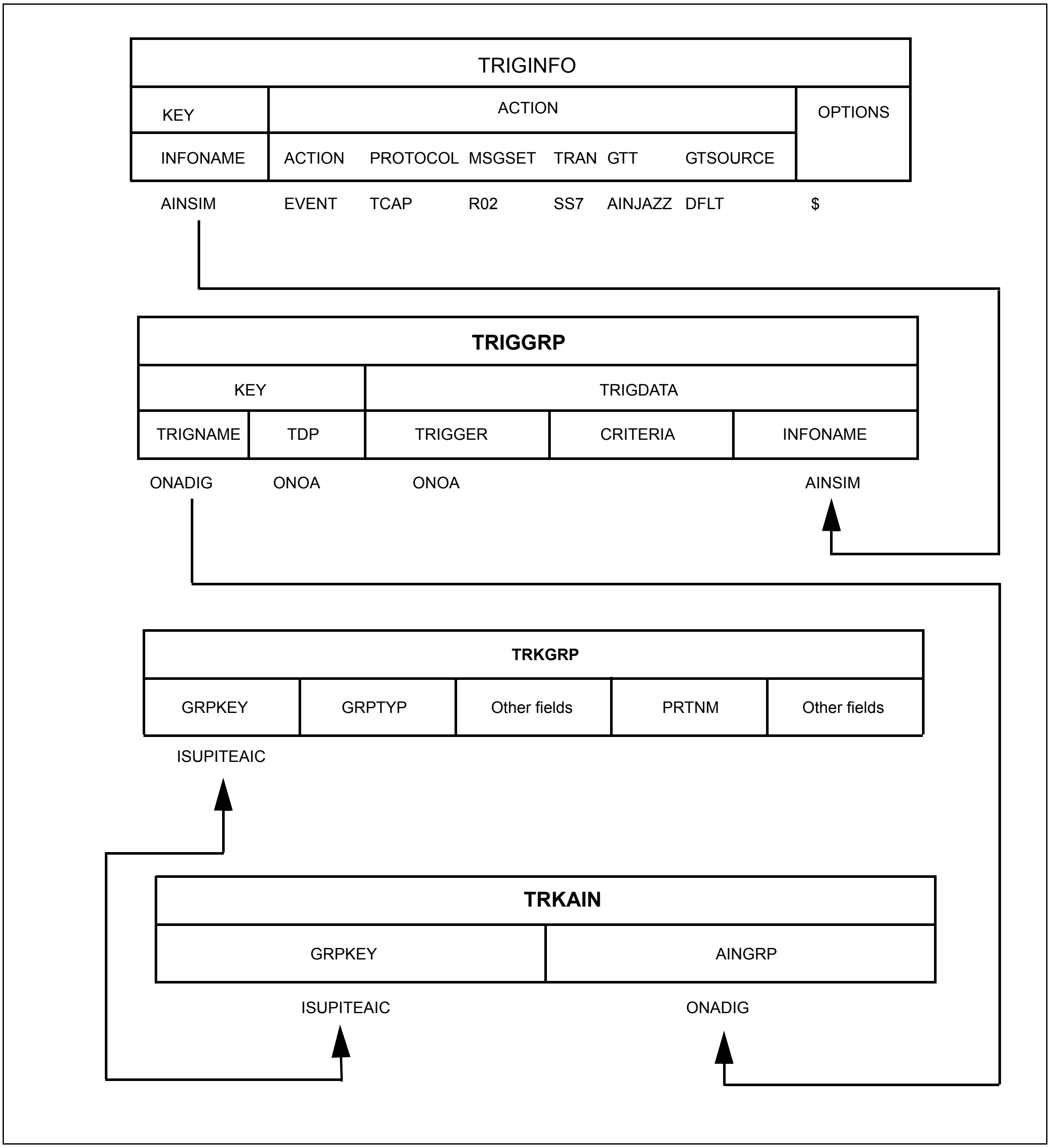
Table 393 Trigger definition and subscription summary

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Subscription tables	Option	SERVORD
ONOA	ONOA	CT	TRIGGRP TRIGINFO	Line (POTS)	LENFEAT	AIN	SO
				Line (MDC, RES)	IDNFEAT		
				Line (EBS, MFT)	KSETFEAT		
				Trunk group (POTS)	LENFEAT		
				Customer group	CUSTSTN		No

34.4 ONOA example

Figure 239 on page 885 provides some sample datafill for the ONOA trigger.

Figure 239 Sample datafill for ONOA



35 Termination_Attempt trigger

ATTENTION
Trigger TERMATT can be provisioned in two ways: either by using the trigger item or trigger group provisioning interface. A subscriber (office, customer group, or individual agent) can only subscribe to triggers defined by one provisioning interface, however, a call can encounter triggers provisioned in different provisioning interfaces at different subscription levels.

35.1 General

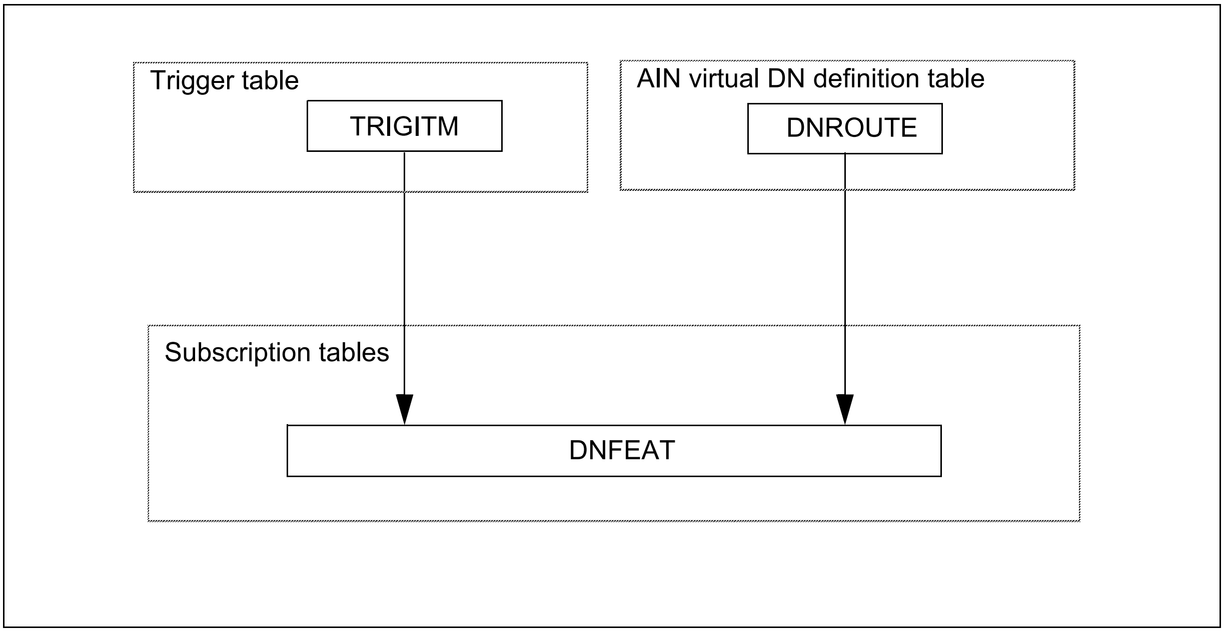
Trigger Termination_Attempt (TERMATT) occurs at the termination attempt TDP in the terminating basic call model (BCM).

A query is sent to the off-board processor whenever a call attempts to terminate on a DN that has subscribed to the TERMATT trigger, provided that the originating agent is AIN Service Enablers supported.

35.2 Trigger item provisioning interface

Figure 240 on page 888 shows the datafilling steps required by the TERMATT trigger. Figure 240 on page 888 assumes that the trigger item provisioning interface for the TERMATT trigger has been selected. For information about feature interactions, see Chapter 21: “AIN interactions introduction” on page 717 and Chapter 24: “AIN/DMS-100 interactions (D to H)” on page 957 (Pay particular attention to emergency services.).

Figure 240 Datafilling hierarchy for the TERMATT trigger



35.2.1 Step 1: Datafilling table TRIGITM

The TERMATT trigger type is non-digit based, and trigger item actions must be datafilled in table TRIGITM. This information indicates the action to be performed by the SSP when the criterion is satisfied.

1. In response to the TDP prompt, enter 20. This is the numeric code for the Termination_Attempt TDP.
2. In response to the TINAME prompt, enter the trigger item identifier you wish to use. For example, enter DNTRIG.
3. In response to the TRIGGER prompt, enter TERMATT.
4. In response to the CRITERIA prompt, only the Call Type criterion can be entered for the TERMATT trigger. When all desired criteria have been entered, type $ at the CRITERIA prompt.
   a. Call type (CT) criterion, this criterion is optional. At the CT prompt, enter VBINFO for voice or CMDATA for data.
   b. When the CT criterion is not specified, then both voice and data calls trigger when all other criteria is satisfied.
5. In response to the STATE field, enter LK or ULK. LK locks (or disables) a trigger item; ULK unlocks (or enables) a trigger item.
6. In response to the ACTION prompt, type EVENT. EVENT instructs the SSP to launch a query when the trigger criterion has been satisfied. ESCAPE is not a valid action for this trigger.

7. In response to the Service Logic Host Route (SLHR) subfield prompts, enter any of the following for these TERMATT trigger.
   a. In response to the MSGSET prompt, enter R02 or R01.
   b. In response to the TRANSPORT prompt, enter SS7.
   c. In response to the GTT prompt, enter a Global Title Translation variable, for example, AINJAZZ.
8. The user is prompted for the OPTION field. This field is optional. When all desired options have been entered, type $ at the OPTION prompt. When datafilling the OPTION field, the choices are:
   a. Default routing (DFLTRT) option. The E911ESN selector is the only selector that can be applied to the TERMATT trigger.
   b. Potential use (POTUSE) option. This option is used to specify the service for a particular tuple in table TRIGITM is being used. After entering POTUSE in the OPTION field, the user is prompted for the POTUSE field. E911 service is the only option that can be specified for trigger SDS. Enter E911.

      Note 1: The E911 selector for DFLTRT can only be applied to trigger TERMATT.

      Note 2: The E911 selector for POTUSE can only be applied to trigger TERMATT.

35.2.2 Step 2: Datafilling table DNROUTE

1. Proceed to Section 35.2.3 “Step 3: Datafilling table DNFEAT” on page 890 when the terminating DN is not an AIN virtual DN.
2. When the call triggers at TERMATT from an AIN virtual DN, that AIN virtual DN must be datafilled in table DNROUTE before it can be subscribed in table DNFEAT.
3. An AIN virtual DN can be used for AIN applications. For example, it can correspond to a feature DN in the off-board processor or adjunct. When a call is made to this DN without the associated trigger being datafilled to send control to the off-board processor, the call is routed to treatment.
4. An AIN virtual DN can be defined in table DNROUTE using the FEAT AIN selector at the DN_SEL prompt.
5. An AIN virtual DN can be either in the public environment or in the private environment. The DNTYPE field must be set to NONIBN for a POTS virtual DN and to IBN for an IBN virtual DN. The IBN DNTYPE appears only when the Meridian digital centrex (MDC) base package is in the load.

6. When the AIN virtual DN is in the public environment, you are prompted for a LINEATTR.
7. When the virtual DN is in the IBN environment, you are prompted for a customer group and subgroup information, and you can specify NCOS as an option.

35.2.3 Step 3: Datafilling table DNFEAT

For all subscription tables, the AINGRPID (trigger group name) is used as the selector to determine whether the trigger item provisioning model is to be used. When a regular trigger group name is datafilled, the trigger group provisioning model will be used. When the keyword ‘TIID’ is datafilled, the trigger item provisioning model will be used. Internally the subscription tables will use a vector to store trigger item assignments. When the TIID selector is entered for the AINGRPID, a vector of trigger item assignments will be prompted for. One trigger item assignment consists of the following data fields, entered at the TILIST (or TIASGN) prompt. Enter a $ when you are finished entering trigger item assignments.

- TDP: Enter 20 to specify the Termination_Attempt TDP.
- TINAME: 8 character alphanumeric string of a valid trigger item in table TRIGITM.
- TRIGACT: Trigger activation state (ON or OFF).

In order to datafill a DN in table DNFEAT, it must be a valid DN and be used for one of the following purposes:

- individual line
- hunt group
- enhanced secondary directory number (teen services, E type SDN only)
- AIN virtual DN

The table editor can be used for subscription, but SERVORD is the recommended way to subscribe the TERMATT trigger.

Table 394 summarizes datafill requirements for the TERMATT trigger type.

Table 394 Trigger definition and subscription tables for the TERMATT trigger type

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Sub-scription tables	Option	SERVORD
TERMATT	TERMATT	CT	TRIGITM	DN	DNFEAT	AINDN	YES
				Virtual DN			
M = mandatory							

35.2.4 Sample TERMATT datafill

Table 395 illustrates sample datafill for trigger TERMATT.

Table 395 Table TRIGITM

TIID		Trigger	Criteria	State	Action	MsgSet	Transport	GTT	Option
TDP	NAME								
20	DNTRIG	TERMATT	$	ULK	EVENT	R02	SS7	AINJAZZ	(DFLTRT E911ESN 911)$

Table 396 illustrates sample datafill required to subscribe trigger TERMATT.

Table 396 Table DNFEAT

AREA CODE	OFCCODE	STNCODE	OPTLIST
613	621	2502	(AINDN TIID (20 DNTRIG ON) $) $

Figure 241 on page 892 illustrates the dependencies between the datafill tables.

Figure 241 Sample datafill for the TERMATT example

TRIGITM

KEY	TRIGGER	CRITERIA	STATE	ACTION	SERVICE LOGIC HOST ROUTE			OPTIONS
					MSGSET	TRAN	GTT	
	TERMATT	$	ULK	EVENT	R02	SS7	AINJAZZ	(DFLTRT E911ESN 1)$

Fields within KEY

TDP	TINAME
20	DNTRIG

DNROUTE

AREACODE	OFCCODE	STNCODE	DN_SEL	FEATURE	DNTYPE	AINOPT
613	621	2502	FEAT	AIN	NONIBN	0$
613	722	9090	FEAT	AIN	IBN	COMKODAK 0 $

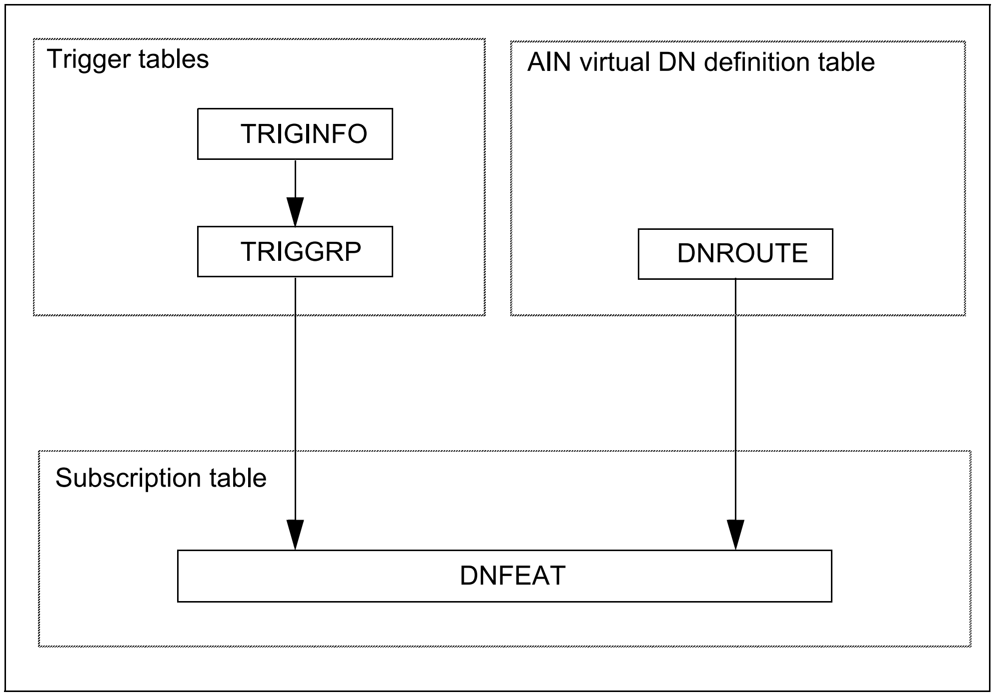
DNFEAT

AREACODE	OFCCODE	STNCODE	DNOPT	AINGRP
613	722	9090	(AINDN	DNTRIG)$
613	621	2502	(AINDN	TIID (20 DNTRIG ON)$)$
613	722	4011	(AINDN	TIID (20 DNTRIG ON)$)$

35.3 Trigger group provisioning interfaces

Figure 242 illustrates the datafill hierarchy for trigger TERMATT.

Figure 242 Datafilling hierarchy for the TERMATT trigger



35.3.1 Step 1: Datafilling table TRIGINFO

An INFONAME defines the action information, that is, what action the SSP takes when a call encounters a trigger and the criteria are met. For AIN Service Enablers, the SSP must send a query to the off-board processor using a particular messaging protocol and transport.

1. In response to the KEY prompt, enter the INFONAME identifier you want to use, for example AINSIM.
2. In response to the ACTION prompt, enter EVENT. The ESCAPE action is not valid for this trigger.
3. In response to the PROTOCOL prompt, enter TCAP.
4. In response to the MSGSET prompt, enter R02 or R01.
5. In response to the TRANSPRT prompt, enter SS7.
6. In response to the GTT prompt, enter a Global Title Translation variable, such as AINJAZZ.
7. In response to the GTSOURCE prompt, enter a GT source, such as DFLT.
8. In response to the OPTION prompt, the DFLTRT option can be specified. The E911ESN selector can only be applied to trigger TERMATT.

Assumptions regarding the datafilling of the ACTION field in all triggering examples are described in Chapter 17: “Provisioning assumptions” on page 575.

35.3.2 Step 2: Datafilling table TRIGGRP

An AINGRP that contains the TERMATT trigger must be defined in table TRIGGRP before it can be referenced in the subscription table DNFEAT.

Table TRIGGRP is keyed on the trigger group name and on the trigger detection point (TDP). You must create a name for the TERMATT AINGRP (up to 16 characters). The TDP for the TERMATT trigger type must be TERMATT.

1. In response to the KEY prompt, enter your AINGRP name, such as DNTRIG, and TERMATT, that specifies the TDP.
2. In response to the TRIGGER prompt, enter TERMATT.
3. In response to the CRITERIA prompt, the Call type (CT) criterion can be entered for the TERMATT trigger. This criterion is optional. At the CT prompt, enter VBINFO for voice or CMDATA for data. When the CT criterion is not specified, then both voice and data calls will trigger when all other criteria are satisfied.

   The ability to datafill groups of AIN behaviors on a DN/CT basis is accomplished by datafilling a group on a DN basis in table DNFEAT. Then using the CT criterion in table TRIGGRP, specify the trigger behaviors within the entry that correspond to voice calls and to data calls.

   When all desired criteria have been entered, enter $ at the CRITERIA prompt.
4. In response to the INFONAME prompt, enter the INFONAME you defined in Section 35.3.1 “Step 1: Datafilling table TRIGINFO” on page 893.
5. Additional triggers can be added to the group. When you have finished entering triggers, enter $ at the TRIGGER prompt.

35.3.3 Step 3: Datafilling table DNROUTE

1. Proceed to Section 35.3.4 “Step 5: Datafilling table DNFEAT” on page 895 when the terminating DN is not an AIN virtual DN.
2. When the call triggers at TERMATT from an AIN virtual DN, that AIN virtual DN must be datafilled in table DNROUTE before it can be subscribed in table DNFEAT.
3. An AIN virtual DN can be used for AIN applications. For example, it can correspond to a feature DN in the off-board processor or adjunct. When a call is made to this DN without the associated trigger being datafilled to send control to the off-board processor, the call is routed to treatment.
4. An AIN virtual DN can be defined in table DNROUTE using the FEAT AIN selector at the DN_SEL prompt.

5. An AIN virtual DN can be either in the public environment or in the private environment. The DNTYPE field must be set to NONIBN for a POTS virtual DN and to IBN for an IBN virtual DN. The IBN DNTYPE appears only when the Meridian digital centrex (MDC) base package is in the load.
6. When the AIN virtual DN is in the public environment, you are prompted for a LINEATTR.
7. When the virtual DN is in the IBN environment, you are prompted for a customer group and subgroup information, and you can specify NCOS as an option.

35.3.4 Step 5: Datafilling table DNFEAT

Any terminating DN with access to the Public Office Dialing Plan (PODP) can subscribe to the TERMATT trigger by the AINDN option in table DNFEAT. In order to datafill a DN in table DNFEAT, it must be a valid DN and be used for one of the following purposes:

- individual line
- hunt group
- enhanced secondary directory number (teen services, E type SDN only)
- AIN virtual DN

SERVORD is the recommended way to subscribe the TERMATT trigger to DNs, but the table editor is also available. See Chapter 16: “SERVORD guidelines” on page 551.

Table 397 summarizes steps 1 to 4. It shows the trigger definition and subscription tables for the TERMATT trigger type.

Table 397 TERMATT trigger definition and subscription

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Sub-scription tables	Option	SERVORD
TERMATT	TERMATT	CT	TRIGGRP TRIGINFO	DN	DNFEAT	AINDN	YES
				Virtual DN			

35.3.5 Step 6: Verifying with TRAVER

Once datafill has been set up for the TERMATT trigger, TRAVER can be used to verify the AIN Service Enablers triggering.

35.3.6 TERMATT examples

This section describes three sample calls that trigger at TERMATT. Figure 243 on page 897 illustrates the datafill for these three sample calls. It also shows the dependencies between the datafilling tables. Apply the instructions already outlined in steps 1 to 4 to add the sample tuples shown in Figure 243 on page 897 and verify the datafill with TRAVER.

35.3.6.1 Example 1: Normal DN

Originating from DN 6219001, dial 6212502. When the call attempts to terminate on a non AIN-virtual DN (6212502) that has subscribed to a TERMATT trigger group called DNTRIG, the call triggers at TERMATT. See sample output in TRAVER 244 on page 898.

35.3.6.2 Example 2: POTS AIN virtual DN

Originating from DN 6219001, dial 6210001. When the call attempts to terminate on a POTS AIN-virtual DN (6210001) that has subscribed to a TERMATT trigger group called DNTRIG, the call triggers at TERMATT. See sample output in TRAVER 245 on page 900.

35.3.6.3 Example 3: IBN AIN virtual DN

Originating from DN 6219001, dial 7229090. When the call attempts to terminate on a IBN AIN-virtual DN (7229090) that has subscribed to a TERMATT trigger group called DNTRIG, the call triggers at TERMATT. See sample output in TRAVER 244 on page 898.

Figure 243 Sample datafill for the three TERMATT examples

TRIGINFO

KEY	ACTION						OPTIONS
INFONAME	ACTION	PROTOCOL	MSGSET	TRAN	GTT	GTSOURCE	
AINSIM	EVENT	TCAP	R02	SS7	AINJAZZ	DFLT	$

TRIGGRP

KEY		TRIGDATA		
TRIGNAME	TDP	TRIGGER	CRITERIA	INFONAME
DNTRIG	TERMATT	(TERMATT	$	AINSIM)$

DNROUTE

AREACODE	OFCCODE	STNCODE	DN_SEL	FEATURE	DNTYPE	AINOPT
613	621	0001	FEAT	AIN	NONIBN	0$
613	722	9090	FEAT	AIN	IBN	COMKODAK 0 $

DNFEAT

AREACODE	OFCCODE	STNCODE	DNOPT	AINGRP
613	621	2502	(AINDN	DNTRIG)$
613	621	0001	(AINDN	DNTRIG)$
613	722	9090	(AINDN	DNTRIG)$

In table DNROUTE, the first tuple is a POTS AIN virtual DN defined for Example 2, and the second tuple is an IBN AIN virtual DN defined for Example 3.

In table DNFEAT, the three tuples are for examples 1 to 3 respectively.

35.3.7 Verifying with TRAVER

> ***Note:*** The order in TRAVER reflects the translation order only. For the datafilling order, see Section 35.3 "Trigger group provisioning interfaces" on page 892.

TRAVER 244 through TRAVER 246 on page 902 provide three sample TRAVER outputs for trigger TERMATT, using the trigger group provisioning interface.

Figure 244 Sample TRAVER output for trigger TERMATT (example 1)

```
>TRAVER L 6136212111 6211112 B
TABLE LINEATTR
0 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 621 632 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 1112 L HOST 00 0 00 04
TABLE DNFEAT
```

Figure 244 Sample TRAVER output for trigger TERMATT (example 1) (Continued)

```
613 621 1112 (AINDN DNTRIG ) $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 621 623
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
KEY NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
TABLE FNPA7DIG
TUPLE NOT FOUND
TABLE TRIGGRP
OFCTRIGGRP_ALL INFOANAL
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
AIN Info Analyzed TDP: trigger criteria not met.
TABLE DNFEAT
613 621 1112 (AINDN DNTRIG ) $
TABLE TRIGGRP
DNTRIG TERMATT
 . TERMATT $ ROCKINFO
Trigger AIN TERMATT is applicable to directory number.
Trigger AIN TERMATT: Trigger is active.
   (Use AINCI CHANGESTATE command to alter activation state.)
 .  . TABLE TRIGINFO
 .  . ROCKINFO EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6136211112 6136211112 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Term Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

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

Figure 244 Sample TRAVER output for trigger TERMATT (example 1) (Continued)

```
AIN Term Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
```

Figure 245 Sample TRAVER output for trigger TERMATT (example 2)

```
>TRAVER L 6136212111 6210001 B
TABLE LINEATTR
0 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 621 632 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 0001 FEAT AIN NONIBN 0 613_P621_0 L613_LATA1_0 $
TABLE DNFEAT
613 621 0001 (AINDN DNTRIG ) $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
```

Figure 245 Sample TRAVER output for trigger TERMATT (example 2) (Continued)

```
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 621 623
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
KEY NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
TABLE FNPA7DIG
TUPLE NOT FOUND
TABLE TRIGGRP
OFCTRIGGRP_ALL INFOANAL
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
AIN Info Analyzed TDP: trigger criteria not met.
TABLE DNFEAT
613 621 0001 (AINDN DNTRIG ) $
TABLE TRIGGRP
DNTRIG TERMATT
 . TERMATT $ ROCKINFO
Trigger AIN TERMATT is applicable to directory number.
Trigger AIN TERMATT: Trigger is active.
   (Use AINCI CHANGESTATE command to alter activation state.)
 .  . TABLE TRIGINFO
 .  . ROCKINFO EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6136210001 6136210001 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Term Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Term Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
```

Figure 246 Sample TRAVER output for trigger TERMATT (example 3)

```
>TRAVER L 6136212111 7222001 B
TABLE LINEATTR
0 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 722 722 DN 613 722
TABLE TOFCNAME
613 722 $
TABLE DNINV
613 722 2001 FEAT AIN IBN COMKODAK 0 $
TABLE DNFEAT
613 722 2001 (AINDN DNTRIG ) $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
```

Figure 246 Sample TRAVER output for trigger TERMATT (example 3) (Continued)

```
 . SUBTABLE LCASCR
 . 722 722
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
KEY NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
TABLE FNPA7DIG
TUPLE NOT FOUND
TABLE TRIGGRP
OFCTRIGGRP_ALL INFOANAL
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
AIN Info Analyzed TDP: trigger criteria not met.
TABLE DNFEAT
613 722 2001 (AINDN DNTRIG ) $
TABLE TRIGGRP
DNTRIG TERMATT
 . TERMATT $ ROCKINFO
Trigger AIN TERMATT is applicable to directory number.
Trigger AIN TERMATT: Trigger is active.
   (Use AINCI CHANGESTATE command to alter activation state.)
 .  . TABLE TRIGINFO
 .  . ROCKINFO EVENT TCAP R02 SS7 AINROCK DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137222001 6137222001 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Term Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Term Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
```

TRAVER 247 through TRAVER 249 on page 907 provide three sample TRAVER outputs for trigger TERMATT, using the trigger item provisioning interface.

Figure 247 Sample TRAVER output for trigger TERMATT (example 1)

```
>TRAVER L 6136212111 6211112 B
TABLE LINEATTR
0 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 621 632 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 1112 L HOST 00 0 00 04
TABLE DNFEAT
613 621 1112
    (AINDN TIID (20 TA1 ON) $)$
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
LNP Info: Called DN is resident.
```

Figure 247 Sample TRAVER output for trigger TERMATT (example 1) (Continued)

```
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 621 623
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
KEY NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
TABLE FNPA7DIG
TUPLE NOT FOUND
Checking AIN SDS Trigger Items as SDS is compatible with current call
Checking AIN N11 Trigger Items as N11 is compatible with current call
AIN Info Analyzed TDP: trigger criteria not met.
TABLE DNFEAT
613 621 1112
    (AINDN TIID (20 TA1 ON) $)$
Checking AIN TERMATT Trigger Items as TERMATT is compatible with current
call
 .  . TABLE TRIGITM
 .  . 20 TA1 TERMATT $ ULK EVENT R02 SS7 AINROCK $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6136211112 6136211112 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Term Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Term Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
```

Figure 248 Sample TRAVER output for trigger TERMATT (example 2)

```
>TRAVER L 6136212111 6210001 B
TABLE LINEATTR
0 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
```

Figure 248 Sample TRAVER output for trigger TERMATT (example 2) (Continued)

```
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 621 632 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 0001 FEAT AIN NONIBN 0 613_P621_0 L613_LATA1_0 $
TABLE DNFEAT
613 621 0001
    (AINDN TIID (20 TA1 ON) $)$
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 621 623
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
KEY NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
```

Figure 248 Sample TRAVER output for trigger TERMATT (example 2) (Continued)

```
TABLE FNPA7DIG
TUPLE NOT FOUND
Checking AIN SDS Trigger Items as SDS is compatible with current call
Checking AIN N11 Trigger Items as N11 is compatible with current call
AIN Info Analyzed TDP: trigger criteria not met.
TABLE DNFEAT
613 621 0001
    (AINDN TIID (20 TA1 ON) $)$
Checking AIN TERMATT Trigger Items as TERMATT is compatible with current
call
 .  . TABLE TRIGITM
 .  . 20 TA1 TERMATT $ ULK EVENT R02 SS7 AINROCK $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6136210001 6136210001 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Term Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Term Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
```

Figure 249 Sample TRAVER output for trigger TERMATT (example 3)

```
SIG - version
Figure 313Sample TRAVER output for trigger TERMATT (example 3)
>TRAVER L 6136212111 7222001 B
TABLE LINEATTR
0 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $ $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
```

Figure 249 Sample TRAVER output for trigger TERMATT (example 3) (Continued)

```
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 722 722 DN 613 722
TABLE TOFCNAME
613 722 $
TABLE DNINV
613 722 2001 FEAT AIN IBN COMKODAK 0 $
TABLE DNFEAT
613 722 2001
    (AINDN TIID (20 TA1 ON) $)$
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 722 722
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
KEY NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
TABLE FNPA7DIG
TUPLE NOT FOUND
Checking AIN SDS Trigger Items as SDS is compatible with current call
Checking AIN N11 Trigger Items as N11 is compatible with current call
AIN Info Analyzed TDP: trigger criteria not met.
TABLE DNFEAT
613 722 2001
    (AINDN TIID (20 TA1 ON) $)$
```

Figure 249 Sample TRAVER output for trigger TERMATT (example 3) (Continued)

```
Checking AIN TERMATT Trigger Items as TERMATT is compatible with current
call
 .  . TABLE TRIGITM
 .  . 20 TA1 TERMATT $ ULK EVENT R02 SS7 AINROCK $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6137222001 6137222001 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Term Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Term Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
```

36 T_Busy trigger

ATTENTION
Trigger TBUSY can only be provisioned with the trigger item provisioning interface.

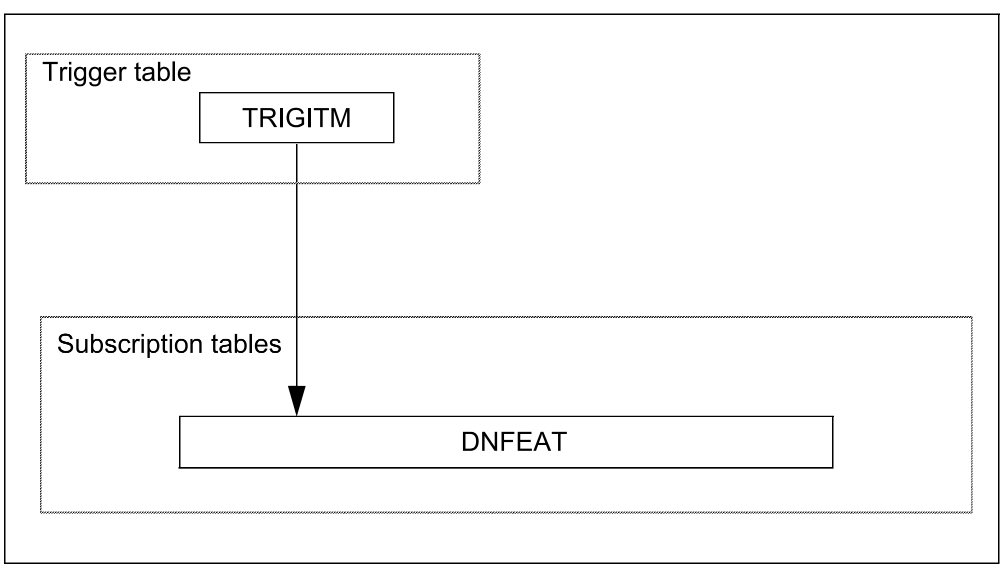
36.1 General

Trigger T_Busy (TBUSY) occurs at the T_Busy TDP in the terminating basic call model (BCM). This trigger can only be assigned to agents through individual subscription. A query message is sent to the off-board processor when the SSP finds the terminator is busy.

36.2 Trigger item provisioning interface

Datafilling steps required by trigger TBUSY are illustrated in Figure 250.

Figure 250 Datafilling hierarchy for trigger TBUSY



36.2.1 Step 1: Datafilling table TRIGITM

The TBUSY trigger type is non-digit based, and trigger item actions must be datafilled in table TRIGITM. This information indicates the action to be performed by the SSP when the criterion is satisfied.

1. In response to the TDP prompt, enter 30. This is the numeric code for the T_Busy TDP.
2. In response to the TINAME prompt, enter the trigger item identifier you wish to use. For example, enter TBSYTRG.
3. In response to the TRIGGER prompt, enter TBUSY.
4. In response to the CRITERIA prompt, enter $. No criteria are valid for this trigger.
5. In response to the STATE field, enter LK or ULK. LK locks (or disables) a trigger item; ULK unlocks (or enables) a trigger item.
6. In response to the ACTION prompt, type EVENT. EVENT instructs the SSP to launch a query when the trigger criterion has been satisfied. ESCAPE is not a valid action for this trigger.
7. In response to the Service Logic Host Route (SLHR) subfield prompts, enter any of the following for these TBUSY trigger.
   a. In response to the MSGSET prompt, enter R02. R01 is not a valid message set for this trigger.
   b. In response to the TRANSPORT prompt, enter SS7.
   c. In response to the GTT prompt, enter a Global Title Translation variable, for example, AINJAZZ.
8. In response to the OPTION prompt, enter $. No options are valid for this trigger.

36.2.2 Step 2: Datafilling table DNFEAT

Use SERVORD to subscribe to an agent. The AINGRP field (trigger group name) determines the provisioning interface selection. When a trigger group name is datafilled, the trigger group provisioning interface is used. When the keyword, TIID is datafilled, the trigger item provisioning interface is used.

From SERVORD invoke command ADO to subscribe to an existing agent. The following steps describe the procedure:

1. In response to the SONUMBER prompt, enter $.
2. In response to the DN_OR_LEN prompt, enter and existing DN or LEN.
3. In response to the OPTION prompt, enter AIN.
4. In response to the AINGRP prompt, enter TIID.
5. In response to the TIASGN prompt, enter 30 to specify the T_Busy TDP.

6. In response to the TINAME prompt, enter the 8 character alphanumeric string of a valid trigger item in table TRIGITM.
7. In response to the TRIGACT prompt, enter ON or OFF for the trigger activation state.
8. In response to the OPTION prompt, enter $ to indicate trigger item assignments are complete.

In order to datafill a DN in table DNFEAT, it must be a valid DN and be used for one of the following purposes:

- individual line
- hunt group
- enhanced secondary directory number (teen services, E type SDN only)

> ***Note:*** When the physical DN is in the IBN environment, the SMDR option needs to be datafilled in the DNFEAT table. This allows the generation of the SMDR record for the second leg of the call when a Forward_Call response is received.

The table editor can be used for subscription, but SERVORD is the recommended way to subscribe the T_Busy trigger.

Table 398 summarizes datafill requirements for the TBUSY trigger type.

Table 398 Trigger definition and subscription tables for the TBUSY trigger type

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Sub-scription tables	Option	SERVORD
TBUSY	TBUSY	CT	TRIGITM	DN	DNFEAT	AINDN	Yes

36.2.3 Sample TBUSY datafill

Table 400 on page 914 and illustrates the datafill for this sample call. Table 399 on page 913 shows the dependencies between the datafilling tables.

Table 399 illustrates sample datafill for trigger T_Busy.

Table 399 Table TRIGITM

TIID		Trigger	Criteria	State	Action	MsgSet	Transport	GTT	Option
TDP	NAME								
30	TBSYTRG	TBUSY	$	ULK	EVENT	R02	SS7	AINJAZZ	$

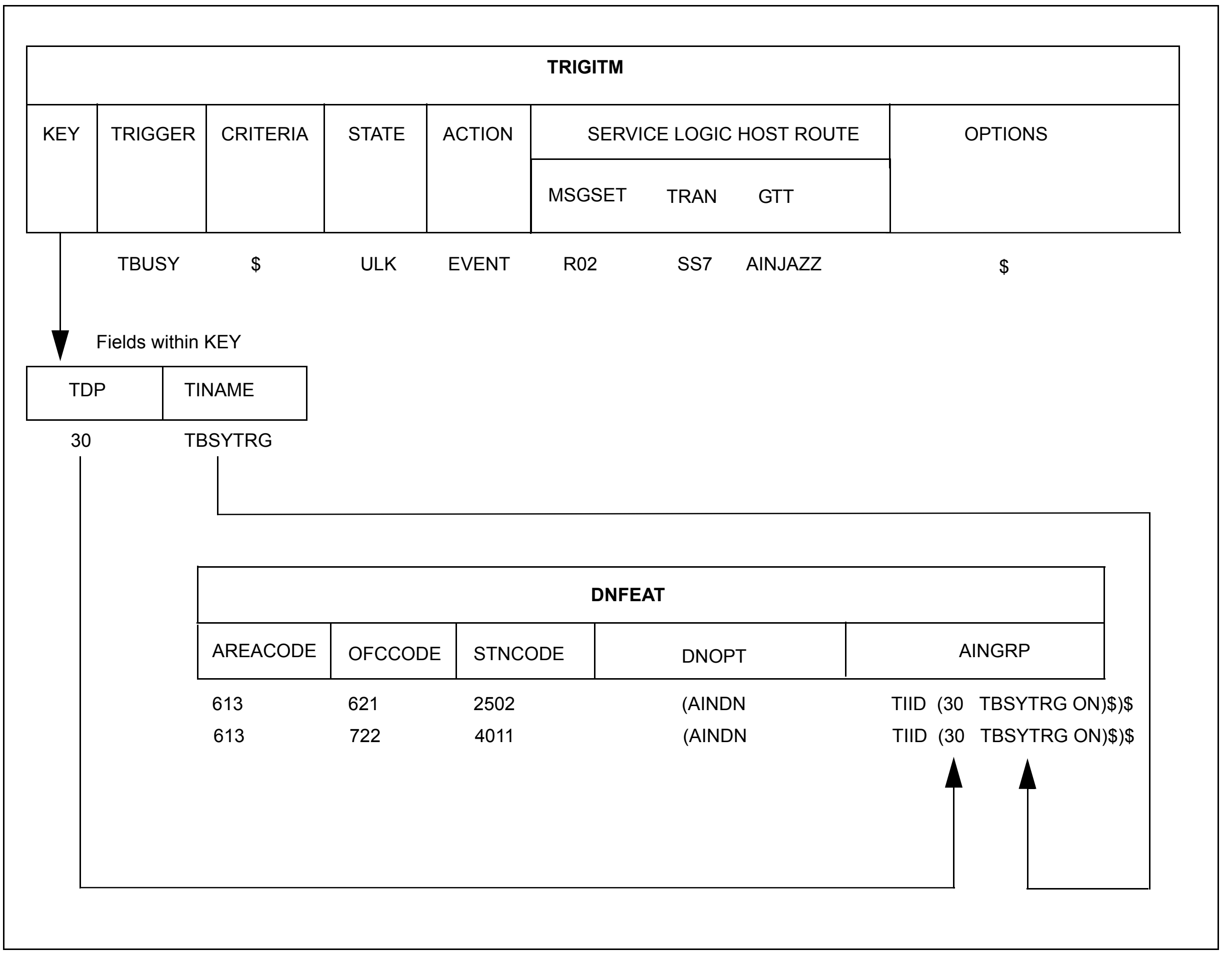
Table 400 illustrates sample datafill required to subscribe to trigger T_Busy.

Table 400 Table DNFEAT

AREA CODE	OFCCODE	STNCODE	OPTLIST
613	621	2502	(AINDN TIID (30 TBSYTRG ON) $)$

Figure 251 illustrates dependencies between the datafill tables.

Figure 251 Dependencies between datafill tables for trigger TBUSY



36.3 Interactions

The T_Busy trigger has general interactions within AIN and with the DMS-100 switch. See Chapter 22: “AIN/DMS-100 interactions (A and B)” on page 707 and Chapter 4: “Other interactions” on page 275. For information about feature interactions, see Chapter 21: “AIN interactions introduction” on page 717 and Chapter 24: “AIN/DMS-100 interactions (D to H)” on page 957 (Pay particular attention to emergency services.).

37 T_No_Answer trigger

> **ATTENTION**
> Trigger TNOA can only be provisioned with the trigger item provisioning interface.

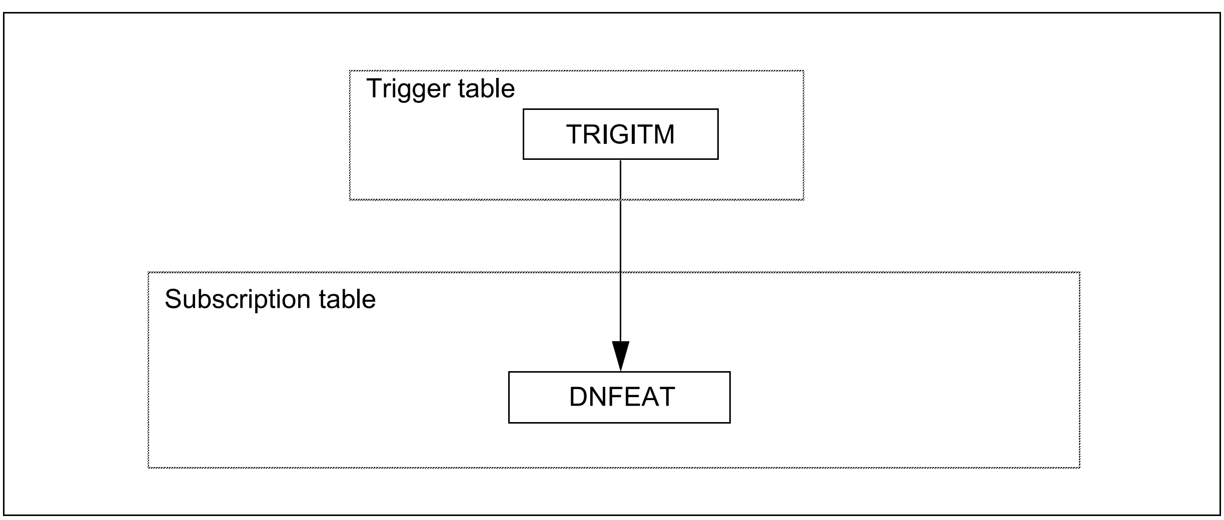
37.1 General

Trigger T_No_Answer occurs at the T_No_Answer TDP in the terminating basic call model (BCM). Trigger T_No_Answer is detected by the SSP when the T_No_Answer timer expires. This trigger can only be assigned to agents through individual subscription.

37.2 Trigger item provisioning interface

Figure 252 illustrates the datafill steps required by trigger TNOA.

Figure 252 Datafilling hierarchy for the TNOA trigger



37.2.1 Step 1: Datafilling table TRIGITM

The TNOA trigger type is non-digit based, and trigger item actions must be datafilled in table TRIGITM. This information indicates the action to be performed by the SSP when the criterion is satisfied.

1. In response to the TDP prompt, enter 32. This is the numeric code for the T_No_Answer TDP.
2. In response to the TINAME prompt, enter the trigger item identifier you wish to use. For example, enter TNOATRG.
3. In response to the TRIGGER prompt, enter TNOA.
4. In response to the CRITERIA prompt, enter $. No criteria are valid for this trigger.
5. In response to the STATE field, enter LK or ULK. LK locks (or disables) a trigger item; ULK unlocks (or enables) a trigger item.
6. In response to the ACTION prompt, type EVENT. EVENT instructs the SSP to launch a query when the trigger criterion has been satisfied. ESCAPE is not a valid action for this trigger.
7. In response to the Service Logic Host Route (SLHR) subfield prompts, enter any of the following for these TNOA trigger.
   a. In response to the MSGSET prompt, enter R02 or R01.
   b. In response to the TRANSPORT prompt, enter SS7.
   c. In response to the GTT prompt, enter a Global Title Translation variable, for example, AINJAZZ.
8. In response to the OPTION prompt, enter $.

37.2.2 Step 2: Datafilling table DNFEAT

Use SERVORD to subscribe to an agent. The AINGRP field (trigger group name) determines the provisioning interface selection. When a trigger group name is datafilled, the trigger group provisioning interface is used. When the keyword, TIID is datafilled, the trigger item provisioning interface is used.

From SERVORD invoke command ADO to subscribe to an existing agent. The following steps describe the procedure:

1. In response to the SONUMBER prompt, enter $.
2. In response to the DN_OR_LEN prompt, enter and existing DN or LEN.
3. In response to the OPTION prompt, enter AIN.
4. In response to the AINGRP prompt, enter TIID.
5. In response to the TIASGN prompt, enter 32 to specify the T_No_Answer TDP.

6. In response to the TINAME prompt, enter the 8 character alphanumeric string of a valid trigger item in table TRIGITM.
7. In response to the TRIGACT prompt, enter ON or OFF for the trigger activation state.
8. In response to the OPTION prompt, enter $ to indicate trigger item assignments are complete.

In order to datafill a DN in table DNFEAT, it must be a valid DN and be used for one of the following purposes:

- individual line
- hunt group
- enhanced secondary directory number (teen services, E type only)

The table editor can be used for subscription, but SERVORD is the recommended way to subscribe trigger TNOA.

Table 401 summarizes datafill requirements for the TNOA trigger type.

Table 401 Trigger definition and subscription tables for the TNOA trigger type

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Sub-scription tables	Option	SERVORD
TNOA	TNOA	CT	TRIGITM	DN	DNFEAT	AINDN	Yes

37.2.3 Sample TNOA datafill

Table 402 illustrates sample datafill for trigger TNOA.

Table 402 Table TRIGITM

TIID		Trigger	Criteria	State	Action	MsgSet	Transport	GTT	Option
TDP	NAME								
32	TNOATRG	TNOA	$	ULK	EVENT	R02	SS7	AINJAZZ	$

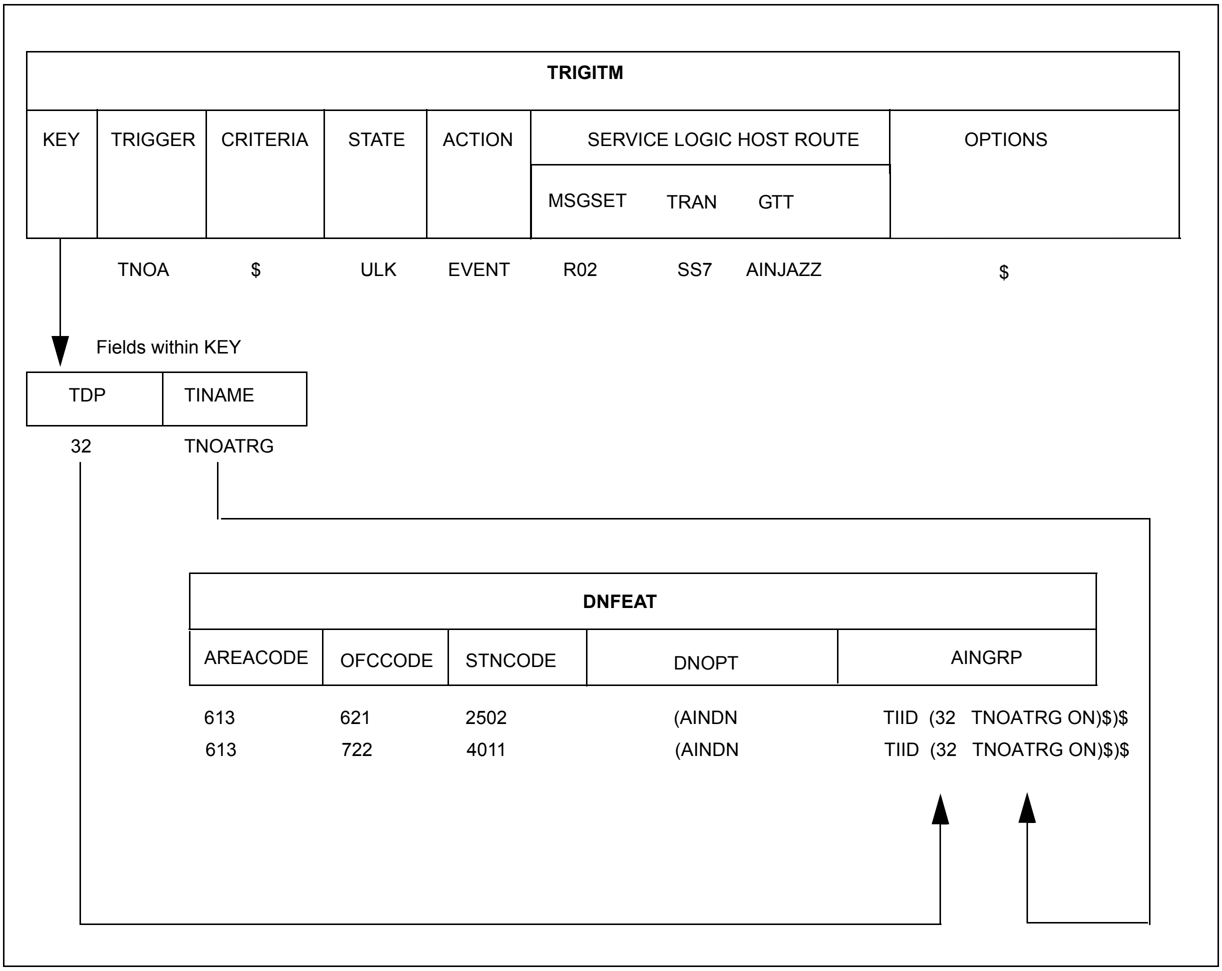
Table 403 illustrates sample datafill for subscribing trigger TNOA.

Table 403 Table DNFEAT

AREA CODE	OFCCODE	STNCODE	OPTLIST
613	621	2502	(AINDN TIID (32 TNOATRG ON) $) $

Figure 253 illustrates the dependencies between datafill table for trigger TNOA.

Figure 253 Datafill table dependencies for trigger TNOA



37.3 Interactions

Trigger T_No_Answer has general interactions within AIN and with the DMS-100 switch. See Chapter 22: “AIN/DMS-100 interactions (A and B)” on page 707 through Chapter 4: “Other interactions” on page 275. For information about feature interactions, see Chapter 21: “AIN interactions introduction” on page 717 and Chapter 24: “AIN/DMS-100 interactions (D to H)” on page 957 .(Pay particular attention to emergency services.)

38 Term_Resource_Available trigger

38.1 General

Trigger Term_Resource_Available (TRA) occurs at the exit of the Select Facility PIC.

A query is sent to the off-board processor whenever a call attempts to terminate on a DN that has subscribed to trigger TRA, provided AIN Service Enablers supports the originating agent.

38.1.1 Description

Trigger TRA applies to the AIN terminating call model (TCM). The trigger enhances AIN trigger detection point (TDP) processing.

At the exit of the Select Facility point in call (PIC), the SSP can hit trigger TRA when the terminating resource is available for termination.

Operating company personnel datafill the SSP to hit this trigger. Each terminating agent has its own datafill. When the call hits this trigger, a query goes to the SCP and requests further instructions on how to process the call. The SSP intercepts the audible ring indication that gets sent to the originating call half and sends a TRA trigger query to the SCP. At the same time, the SSP blocks power ringing to the terminating agent.

Based on the valid response received from the SCP, the call either terminates on the called DN or forwards to another DN.

When the call does not hit this trigger, call processing continues to the next PIC.

Trigger TRA consists of the following activities:

- Trigger TRA detection and processing
- Trigger TRA Request message and processing
- Response processing
  - Continue message and processing
  - Forward_Call message and processing
  - Send_To_Resource message and processing

38.1.1.1 Trigger TRA detection and processing

Trigger TRA is encountered when the terminating access is selected and available for termination.

The DMS encounters trigger TRA when one of the following conditions occur:

- non-ISDN line. When the line is idle and the call can terminate on the line.
- ISDN interface (BRI). The SSP can encounter trigger TRA when: the interface is not marked busy, a B-channel is available on the interface for the call and an idle call reference is available on the terminating DN for the call.
- EKTS group. When all call appearances of the terminating DN are idle.
- pilot DN of an MLHG (see TR-TSY-000569, Multiline Hunt Service, FSD 01-02-0802) or an ISDN Multiline Hunt Group (see TR-TSY- 000859, ISDN Multiline Hunt Group). The SSP encounters trigger TRA when one or more hunt members within the group are available or the queue, if any, is not full.
- hunt group (for example: MLH, DLH, DNH, KSH). When at least one member of the group is idle and is available for call termination.

When the SSP detects trigger TRA the:

- serial trigger count increments.
- SSP sends a Request message to the SCP or adjunct while blocking both power ringing to the terminating agent and audible ring tone to the originating agent.

38.1.1.2 Trigger TRA Request message and processing

The table that follows lists possible parameters for a trigger TRA query message.

Note: For the table that follows, (M) means mandatory; Non-supported parameters are shaded.

Table 404 Trigger TRA parameters

Parameter name	TRA trigger Query message support
UserID (M)	Y
BearerCapability (M)	Y
Notification Indicator	N/A
Amp1 (O)	N/S
Amp2 (O)	N/S
ExtensionParameter (O)	N/S
CalledPartyID (O)	Y
Lata (O)	Y
TriggerCriteriaType (O)	Y
CallingPartyID (O)	Y
ChargeNumber (O)	Y
ChargePartyStationType (O)	Y
OriginalCalledPartyID (O)	Y
RedirectingPartyID (O)	Y
RedirectionInformation (O)	Y
CalledPartyStationType (O)	Y
Sap (O)	N/S
GenericName (O)	Y
ACGEncountered (O)	Y
STRConnection (O)	N/S
AMASequenceNumber (O)	N/S
CTRConnection (O)	N/S

Trigger TRA is subscribed on a DN basis. This trigger does not apply to office wide nor trunks.

38.1.1.3 Response processing

When the SSP receives the SCP response, the SSP:

- decodes the response
- processes the call according to the instructions contained in the message

The messages that follow are valid SCP response messages for a TRA query message:

- Continue
- Forward_Call
- Send_To_Resource

When the SSP receives a Send_Notification message along with a Forward_Call, Continue, or Send_To_Resource message in response to a TRA trigger query, when the call is answered, a Termination_Notification message is sent to the SCP.

Response processing consists of the following types of messages and processing:

- Continue
- Forward_Call
- Send_To_Resource

38.1.1.3.1 Continue message and processing The SCP can respond to a TRA query message by sending a Continue message.

When the SSP receives a Continue response from the SCP for a TRA trigger query, the SSP continues processing the call by applying power ringing to the terminator and audible ringing to the originating agent.

When an AMAslpID parameter is correctly received, the SSP generates an AMA record containing Structure code 0221, according to the GR-1298 requirements, section 9.

Terminating feature interaction handling occurs when applicable. The features that follow are handled during post-TRA Continue response processing:

- Call Forward Don't Answer
- Call Waiting
- CLASS - Auto Recall Blocking of Private Calls (CABOP)
- Dual Line Call Management (DLCM)
- Long Distance Signal (LDS) or Long distance alert enhancement (LDAE)

38.1.1.3.2 Forward_Call message and processing The SCP can respond to a TRA query message by sending a Forward_Call message.

When the SSP receives a Forward_Call message in response to a TRA request message, the SSP:

- releases any resources that were used to process the call between T_NULL and SELECT_FACILITY PICs
- generates an AMA record containing Structure code 0220, when an AMAslpID parameter is correctly received, according to GR-1298 requirements, section 9.

38.1.1.3.3 Send_To_Resource message and processing The SCP can respond to a TRA query message by sending a Send_To_Resource message.

When the SSP receives a Send_To_Resource message in response to a TRA message, the SSP processes the Send_To_Resource message.

38.1.1.4 Software optionality control

Software optionality control AIN Service Enablers Release 8, Term Resource (AIN00281), controls trigger TRA functionality.

38.1.1.5 T1 Timer Expiry and Unsupported/Erroneous response message handling

After the TRA query is sent, if the T1 timer expires before a response from the SCP is received, the call processes as normal from the next point in call and the terminator is alerted. Default routing is not supported for trigger TRA.

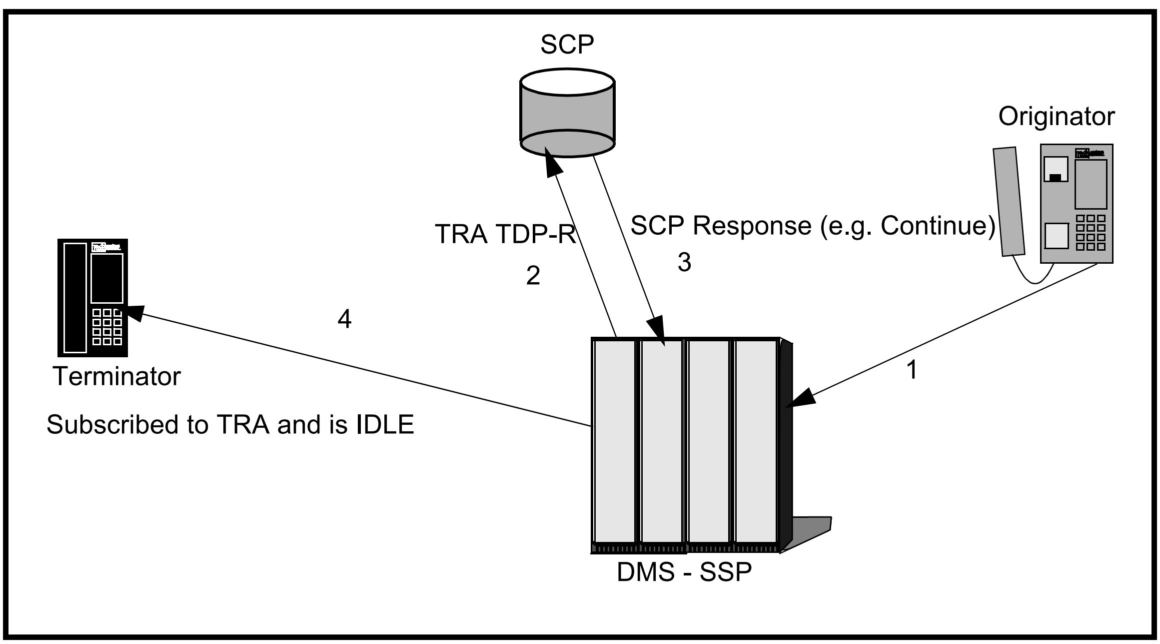
When an unsupported or an erroneous response message is received for a TRA query, the SSP sends a ReportError message to the SCP with field ErrorCause of parameter ApplicationErrorString set to ‘unexpectedMessage’. The call processes as normal from the next point in call and the terminator is alerted.

When an unsupported or an erroneous response message is received for a TRA query, the SSP sends a ReportError message to the SCP with field ErrorCause of parameter ApplicationErrorString set to ‘unexpectedMessage’. The call processes as normal from the next point in call and the terminator is alerted.

The figure that follows describes a basic call scenario. The originating agent (a calling party) attempts to call a terminating agent (a called party) that is idle and available for call termination at that moment. The terminating agent is subscribed to trigger TRA. Trigger TRA is detected and processed during the call attempt.

1. The originator (calling Party) dials the terminator (called party) DN.
2. The SSP determines that the terminator is available (idle) and is subscribed to trigger TRA. The SSP sends a TRA trigger query to the SCP or adjunct while blocking both power ringing to the terminating agent and audible ring tone to the originating agent. (The SSP waits for the instructions from the SCP in the form of a response message.)
3. The SCP sends a valid response message to the SSP with the instructions to continue processing the call.
4. The response to the TRA query (Continue, Forward_Call or Send_To_Resource) is decoded and call processing resumes accordingly.

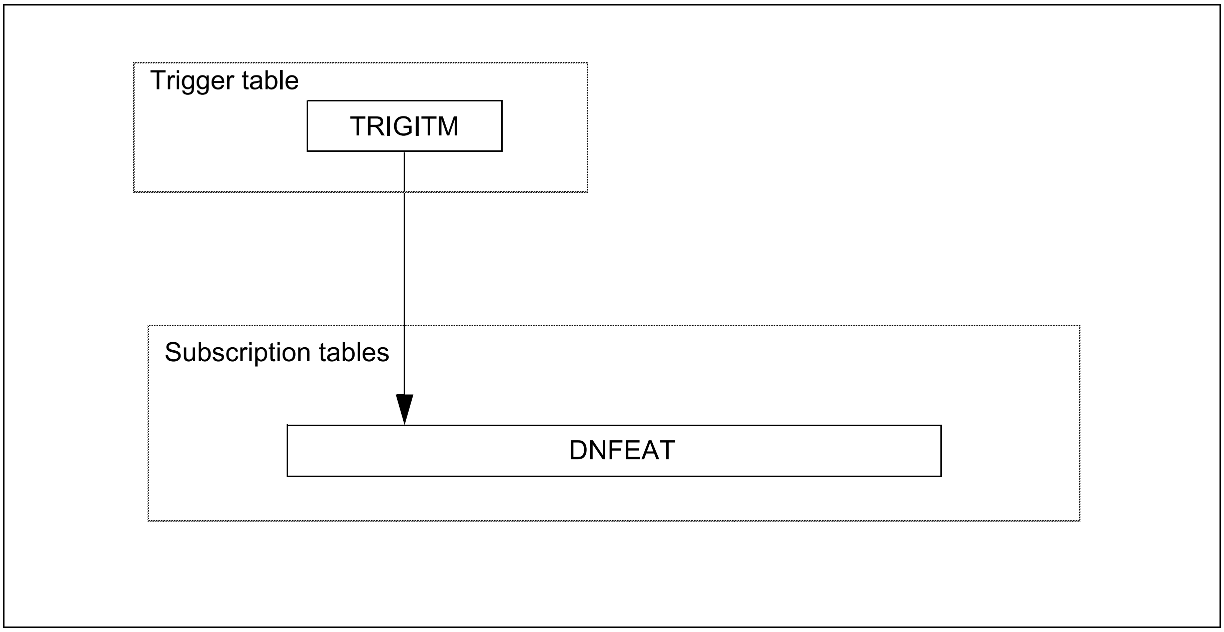
Figure 254 AIN TRA Trigger Processing



38.2 Trigger item provisioning interface

The figure that follows shows the datafill steps required by trigger TRA. The trigger item provisioning interface for the TRA trigger is selected. For information about feature interactions, see Chapter 21: “AIN interactions introduction” on page 717 and Chapter 24: “AIN/DMS-100 interactions (D to H)” on page 957.

Figure 255 Datafilling hierarchy for trigger TRA



38.2.1 Step 1: Datafilling table TRIGITM

Trigger type TRA is non-digit based. Trigger item actions must be datafilled in table TRIGITM. This information indicates the action that the SSP performs when the criterion is satisfied.

1. In response to the TDP prompt, enter 22. This is the numeric code for TDP TRA.
2. In response to the TINAME prompt, enter the preferred trigger item identifier (for example, TRATRIG).
3. In response to the TRIGGER prompt, enter TRA.
4. In response to the CRITERIA prompt, enter $. No criteria are valid for this trigger.
5. In response to the STATE field, enter LK or ULK. LK locks (or disables) a trigger item; ULK unlocks (enables) a trigger item.
6. In response to the ACTION prompt, enter EVENT. EVENT instructs the SSP to launch a query when the trigger criterion is satisfied. ESCAPE is not a valid action for this trigger.

7. In response to the Service Logic Host Route (SLHR) subfield prompts, enter any of the following for trigger TRA:
   a. In response to the MSGSET prompt, enter R02. R01 is not a valid message set for this trigger.
   b. In response to the TRANSPORT prompt, enter SS7.
   c. In response to the GTT prompt, enter a Global Title Translation variable (for example, AINJAZZ).
8. In response to the OPTION prompt, enter $. No options are valid for this trigger.

38.2.2 Step 2: Datafilling table DNFEAT

Use SERVORD to subscribe TRA to an agent.

From SERVORD invoke command ADO to subscribe TRA to an existing agent. The steps that follow describe the procedure.

1. In response to the SONUMBER prompt, enter $.
2. In response to the DN_OR_LEN prompt, enter an existing DN or LEN.
3. In response to the OPTION prompt, enter AINDN.
4. In response to the AINGRP prompt, enter TIID.
5. In response to the TIASGN prompt, enter 22 to specify the TRA TDP.
6. In response to the TINAME prompt, enter the eight character alphanumeric string of a valid trigger item in table TRIGITM.
7. In response to the TRIGACT prompt, enter ON or OFF for the trigger activation state.
8. In response to the OPTION prompt, enter $ to indicate that trigger item assignments are complete.

In order to datafill for a DN in table DNFEAT, the DN must be valid and must be used for one of the following purposes:

- an individual line
- a hunt group
- an enhanced secondary directory number (teen services, E type SDN only)

Table 405 summarizes datafill requirements for trigger type TRA.

Table 405 Trigger definition and subscription tables for trigger type TRA

TDP	Trigger type	Criteria	Definition tables	Subscription basis	Sub-scription tables	Option	SERVORD
22	TRA	$	TRIGITM	DN	DNFEAT	AINDN	YES

39 Trunk Group Trigger

39.1 Trunk Group Trigger behavior

AIN Trunk Group Trigger (TKTERM) feature is implemented on the Terminating Call Model (TCM) and is an enhancement to the AIN trigger processing functionality.

AIN Service Enablers implements the Trunk Group Trigger according to GR-1298 and GR-1299, Issue 7, Nov.2001

The following is a basic use case which shall be used as a basis for the functionality provided using the Trunk_Group_Trigger Functionality.

- The subscriber A dials the called party digits.
- The call translates to go over a public/ private facility trunk group.
- When a termination_Attempt is made on the outgoing trunk group, the trunk_group_trigger is encountered.
- A Termination_Attempt Query for the Trunk Group Trigger is launched to the SCP, with the appropriate query parameters populated.
- The SCP may respond with a valid response to the Termination_Attempt Query for the Trunk_Group_Trigger. i.e. Valid responses to the TAT Query for Trunk_Group_trigger are:
  - Authorize_Termination
  - Disconnect
  - Send_To_Resource
  - Forward_Call
- If SCP Response doesn’t arrive OR an invalid SCP response is received usual Post Query handling will send appropriate error responses to the SCP and progress the call according to default routing, if applicable or appropriate treatment etc.
- If one of the valid Responses with appropriate parameters is received, the responses will be handled and the call will progress accordingly.

Note: The use of a general public trunk group trigger could raise significant problems. The trunk group trigger on a high-usage trunk group would generate a significant number of queries that would increase SS7 network traffic and possibly lead to SCP overload. As a result, it is recommended that this trigger be used only in specific well-defined scenarios involving specialized use trunk groups only.

Figure 256 Functional Behavior Diagram of Trunk Group Trigger

Figure 257

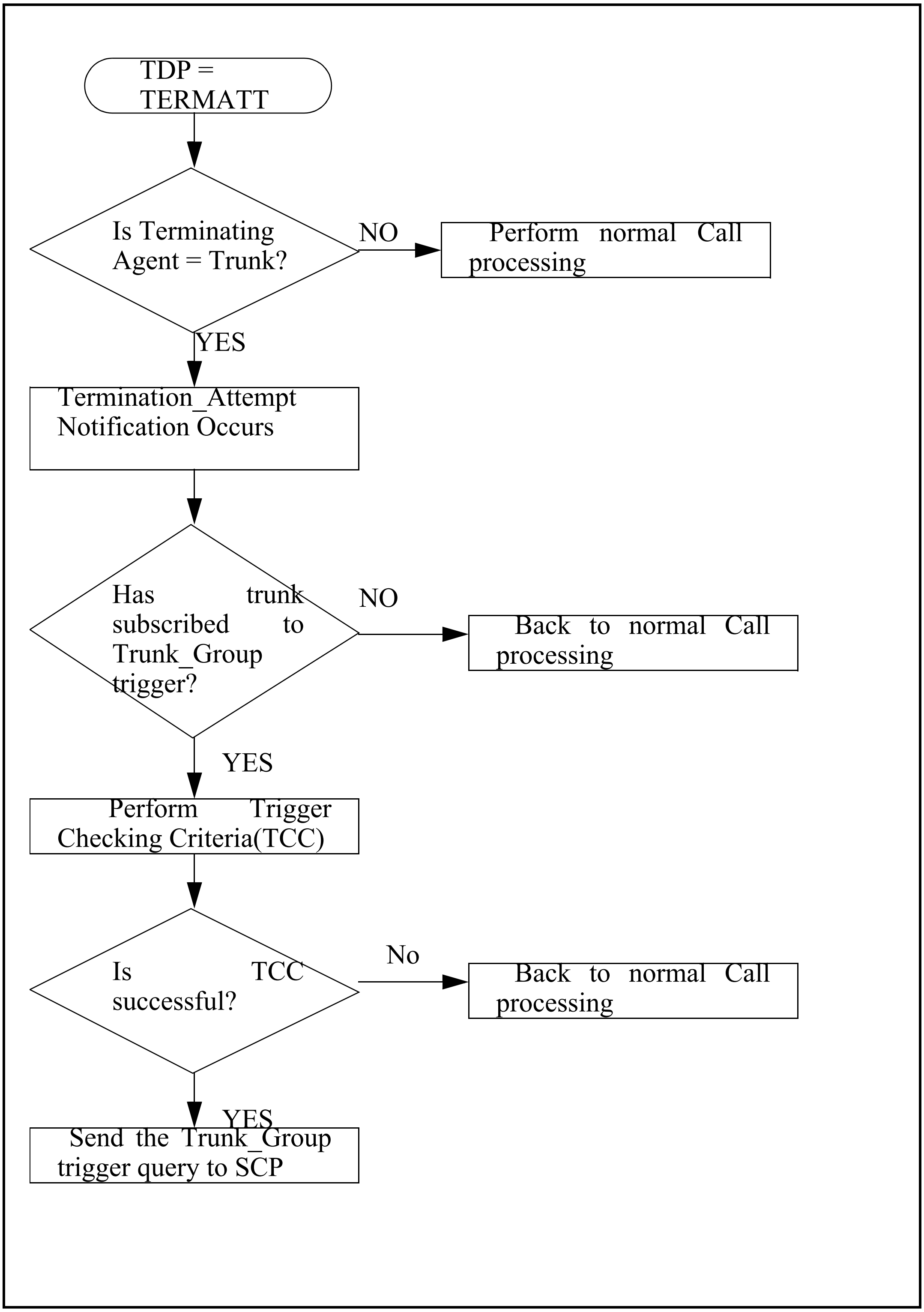

TDP = TERMATT
Is Terminating Agent = Trunk?
NO
Perform normal Call processing
YES
Termination_Attempt Notification Occurs
Has trunk subscribed to Trunk_Group trigger?
NO
Back to normal Call processing
YES
Perform Trigger Checking Criteria(TCC)
Is TCC successful?
No
Back to normal Call processing
YES
Send the Trunk_Group trigger query to SCP

Figure 258 Functional View of Response Processing

Figure 259

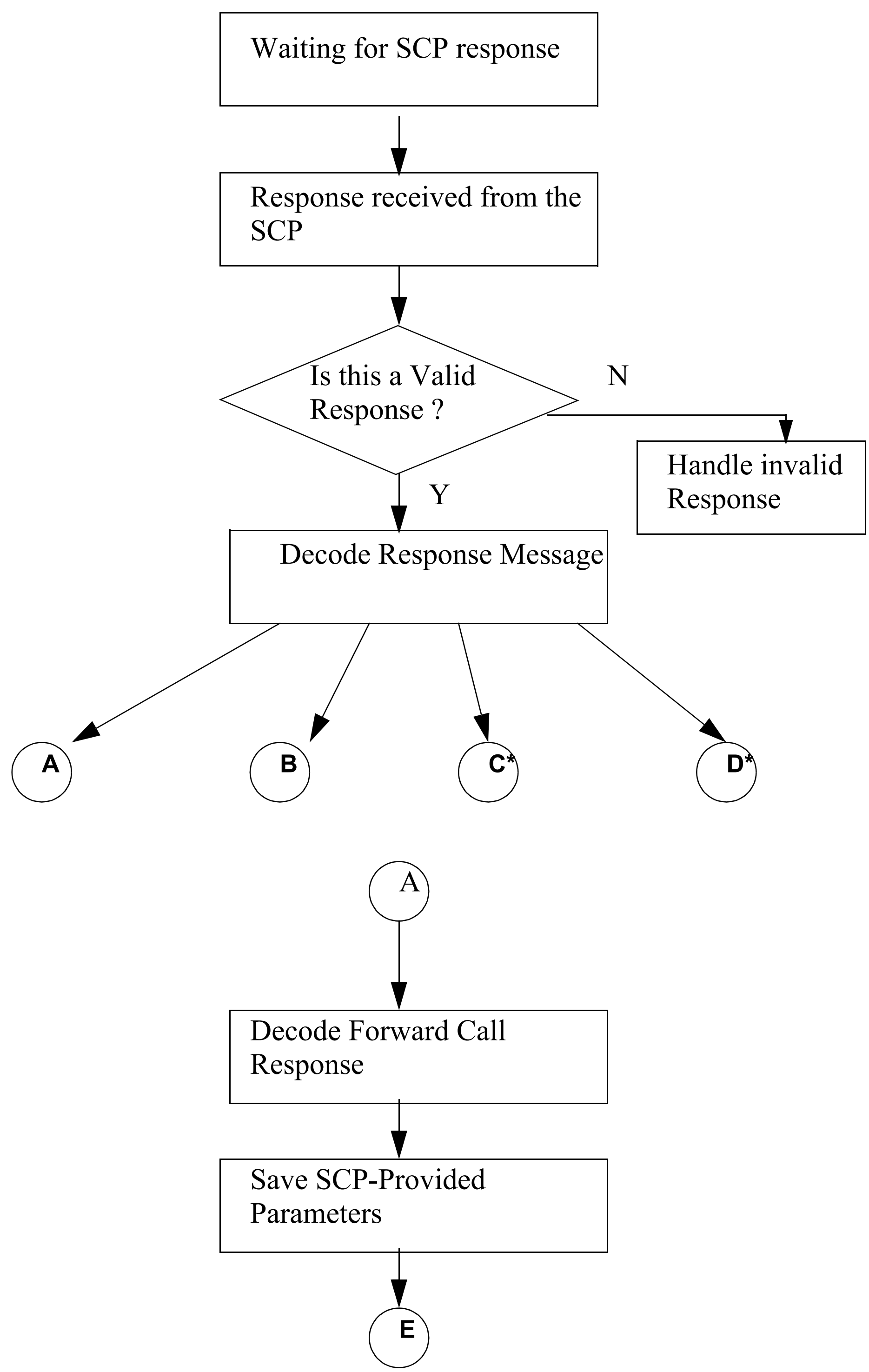

Waiting for SCP response
Response received from the SCP
Is this a Valid Response ?
N
Handle invalid Response
Y
Decode Response Message
A
B
C*
D*
A
Decode Forward Call Response
Save SCP-Provided Parameters
E

Figure 260

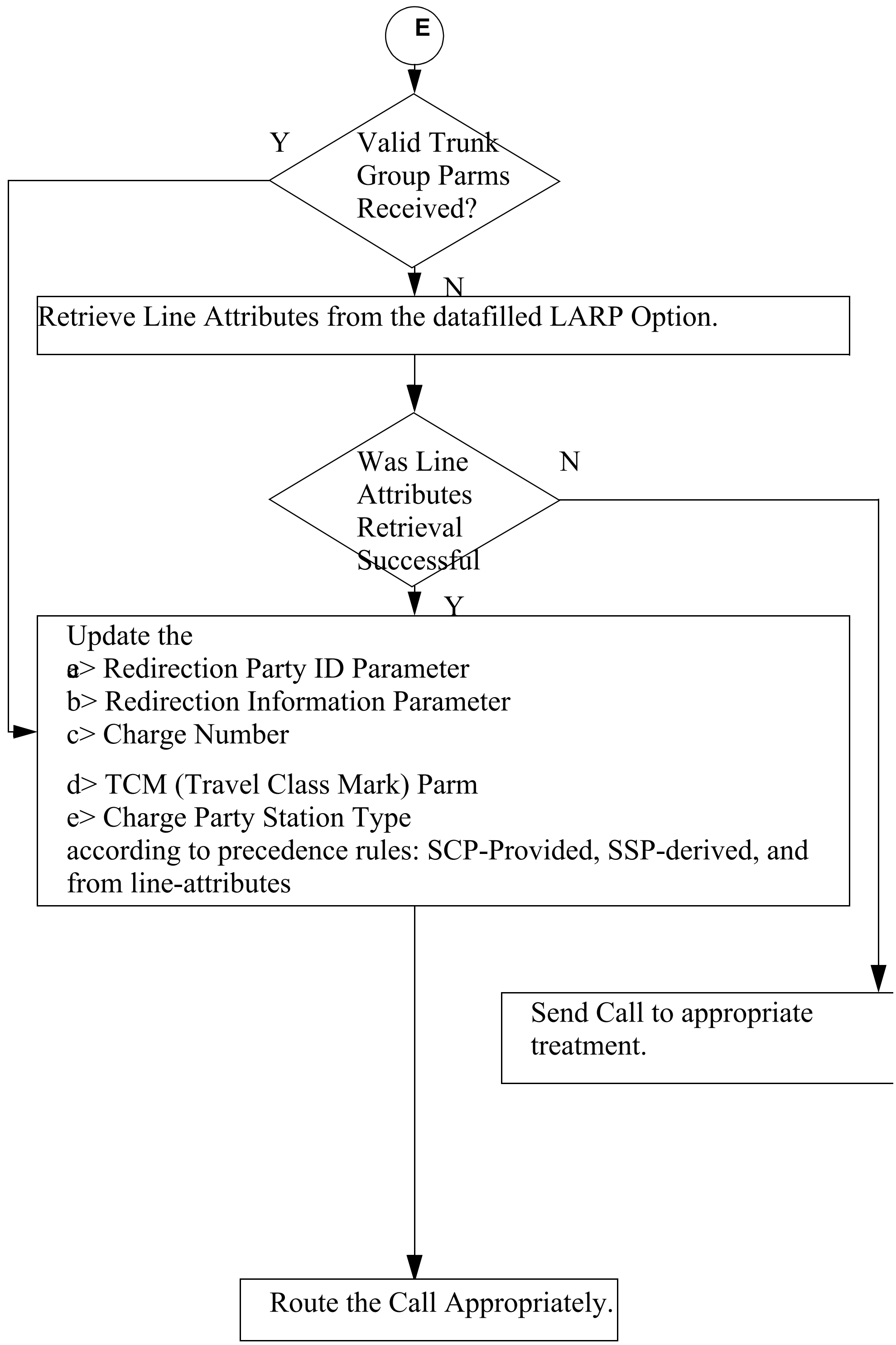
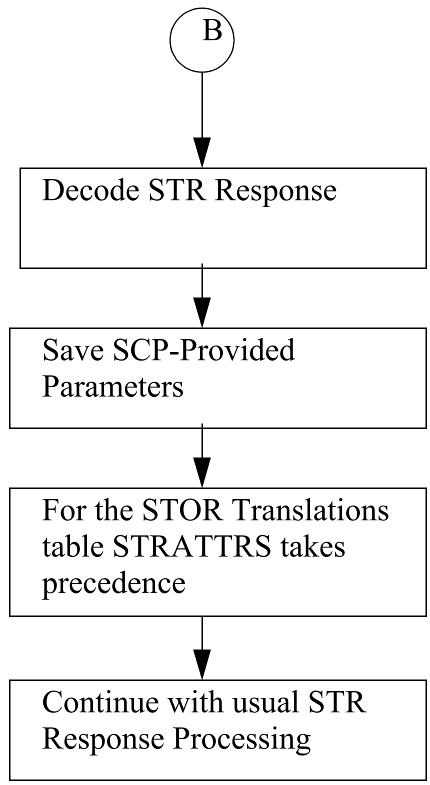

E
Valid Trunk Group Parms Received?
Y
N
Retrieve Line Attributes from the datafilled LARP Option.
Was Line Attributes Retrieval Successful
N
Y
Update the
a> Redirection Party ID Parameter
b> Redirection Information Parameter
c> Charge Number
d> TCM (Travel Class Mark) Parm
e> Charge Party Station Type
according to precedence rules: SCP-Provided, SSP-derived, and from line-attributes
Send Call to appropriate treatment.
Route the Call Appropriately.

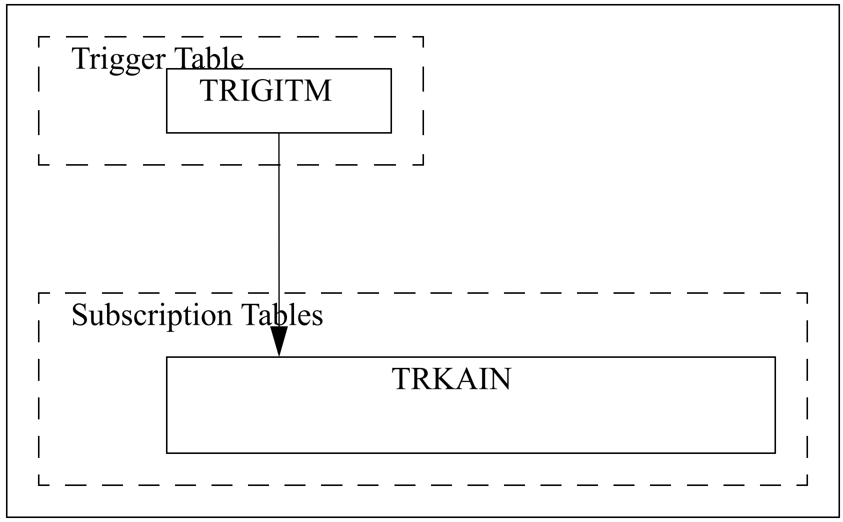
Figure 261



39.2 TKTERM provisioning and datafill

The datafill procedure required by the TKTERM trigger is illustrated as follows:

Figure 262 Datafilling hierarchy for TKTERM trigger



39.2.1 Step 1: Datafilling table TRIGITM

The TKTERM trigger type is non-digit based, and trigger item actions must be datafilled in table TRIGITM. This information indicates the action to be performed by the SSP when the criterion is satisfied.

Procedure 1

1. In response to the TDP prompt, enter 20. This is the numeric code for the TERM_ATTEMPT TDP.
2. In response to the TINAME prompt, enter the trigger item identifier you wish to use. For example, enter TK1.
3. In response to the TRIGGER prompt, enter TKTERM.
4. In response to the CRITERIA prompt, enter $. No criteria are valid for this trigger.
5. In response to the STATE field, enter LK or ULK. LK locks (or disables) a trigger item; ULK unlocks (or enables) a trigger item.
6. In response to the ACTION prompt, type EVENT. EVENT instructs the SSP to launch a query when the trigger criterion has been satisfied. ESCAPE is not a valid action for this trigger.
7. In response to the Service Logic Host Route (SLHR) subfield prompts, enter any of the following for the TKTERM trigger.
   a. In response to the MSGSET prompt, enter R02. R01 is not a valid message set for this trigger.
   b. In response to the TRANSPORT prompt, enter SS7.

c In response to the GTT prompt, enter a Global Title Translation variable, for example, AINPOP.

8 In response to the OPTION prompt, type LARP or DFLTRT or $.If LARP option is not datafilled, then a warning message saying that “Forward Call Response may not be valid “ is displayed. No other option (POTUSE) is valid for this trigger.

9 If you enter DFLTRT for OPTION prompt then he following subfields need to be datafilled.

- SELECTOR
- ANNIDX

The following steps describe how to datafill the DFLTRT option for a trigger item:

a Enter DFLTRT at the OPTION prompt while datafilling the trigger item.

b In response to the SELECTOR prompt, enter anyone of the following values ANNDN, ANN, DN, E911ESN. This field is mandatory.

c In response to the ANNIDX, enter the value of the range between 1 to 65535. This field is mandatory.

10 If you enter LARP for OPTION prompt then the following subfields need to be datafilled.

- LINEATTR
- XLAPLAN
- RATEAREA
- PIC
- LPIC
- REDIR
- FWDATTR

In response to the OPTION prompt, the LARP option can be specified but it is optional.

The following steps describe how to datafill the LARP option for a trigger item:

Note: The following tables must be datafilled before the LARP option: LINEATTR, XLAPLAN, RATEAREA, OCCNAME, and OCCINFO.

a Enter LARP at the OPTION prompt while datafilling the trigger item.

b In response to the LINEATTR prompt, enter the value that associates the trigger with the corresponding index in table LINEATTR. This field is mandatory.

c In response to the XLAPLAN prompt, enter the value that associates the trigger with the corresponding index in table XLAPLAN. This field is mandatory.

d In response to the RATEAREA prompt, enter the value that associates the trigger with the corresponding index in table RATEAREA. This field is mandatory.

e In response to the PIC prompt, enter the name of the Primary Inter exchange Carrier. It has a range of values corresponding to the tuple keys in table OCCNAME. In scenarios where no carrier is desired, the value NILC is used, denoting the equivalent of a NIL carrier.

f In response to the LPIC prompt, enter the Local PIC. The local PIC can have the same values as the PIC field defined in step e.

g In response to REDIR prompt, enter 'N' or 'Y'.

> ***Note:*** REDIR value Y signifies further REDIR_REASON and REDIR_PARTY_ID will be prompted. i.e. either of below mentioned steps i OR j will be performed.

h In response to the FWDATTR prompt, enter 'N' or 'Y'.

- If REDIR= 'N' and FWDATTR= 'Y' go to step i.
- If REDIR= 'Y' and FWDATTR= 'Y' got to step j.
- If REDIR= ’Y /‘N’, and FWDATTR= ‘N’, no further prompts.

i When REDIR= 'N' and FWDATTR= 'Y', in response to TCM prompt, enter a valid TCM value or `$' for a nil value.

> ***Note:*** 11 and 12 are reserved. 10 is spare.

In response to CHARGE_NUMBER prompt, enter 3 to 15 digits or '$' for nil value.

j When REDIR= 'Y' and FWDATTR= 'Y', in response to REDIR_REASON prompt, enter a valid redirecting reason. The redirecting reason can have the values, UNCOND, UNKNOWN, BUSY, NOREPLY.

In response to the REDIR_PARTY_ID prompt, enter the 3 to 15 digits or `$' for a nil value.

> ***Note:*** Note ‘$’ value can be datafilled in the REDIR_PARTY_ID field.

In response to TCM prompt, enter a valid TCM value or `$' for a nil value.

> ***Note:*** 11 and 12 are reserved. 10 is spare.

In response to CHARGE_NUMBER prompt, enter 3 to 15 digits or '$' for nil value

Table 406 Sample datafill in table Trigitm

TDP	TiName	Trigger	Criteria	State	Action	Msg set	Transport	GTT	Option
20	TK1	TKTERM	$	ULK	EVENT	R02	SS7	AINJAZZ	$ or LARP or DFLTRT

Other example tuples in table TRIGITM:

```
>table trigitm

20 TGT1 TKTERM $ ULK EVENT R02 SS7 AINPO

(LARP 0 613_P621_0 L613_LATA1_0 NILC NILC Y Y BUSY 9194668871 1
919991) $

20 TGT2 TKTERM $ ULK EVENT R02 SS7 AINPOP

(LARP 0 613_P621_0 L613_LATA1_0 NILC NILC Y N ) $

20 TGT3 TKTERM $ ULK EVENT R02 SS7 AINPOP

(LARP 0 613_P621_0 L613_LATA1_0 NILC NILC N Y 1 919991) $

20 TGT4 TKTERM $ ULK EVENT R02 SS7 AINPOP

(LARP 0 613_P621_0 L613_LATA1_0 NILC NILC N N ) $
```

39.2.2 Step 2: Datafilling table TRKAIN

In order to datafill for a trunk group in table TRKAIN, the trunk group must be valid. The table editor can be used for subscription.

The following steps describe the procedure:

- In response to the GRPKEY prompt, enter the trunk group id.
- In response to the AINGRP prompt, enter TIID.
- In response to the TILIST prompt, enter 20 to specify TERM_ATTEMPT TDP, enter the 8 character alphanumeric string of a valid trigger item

identifier in table TRIGITM, enter ON or OFF for the trigger activation state.

Table 407 Trigger definition and subscription table for TKTERM trigger

TDP	Trigger type	Criteria	Subscription basis	Subscription table	Servord
20	TKTERM	$	Trunk Group	TRKAIN	NO

Example:

```
TABLE TRKAIN:

ISUP2WITEA TIID 20 TGT1 ON
```

39.3 TKTERM TRAVER enhancements

Two TRAVERs are performed to perform call equivalent of:

- Query Processing of TKTERM trigger
- Response Processing for TKTERM trigger

39.3.1 Query Processing

TRAVER encounters the TKTERM trigger only in the NOTRACE portion, when a trunk group has subscribed to TKTERM trigger in table TRKAIN.

When the LARP is provisioned for TKTERM trigger in table TRIGITM, a message is displayed indicating that command line of response TRAVER for Forward_Call shall be performed with LARP option. Please refer to the table below.

TRAVER Sample with LARP
TRAVER L 6671001 6136211001 B
TABLE LINEATTR
408 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_408 L667_LATA1_408 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_408 C667 613 P621 TSPS N $ $
TABLE RATEAREA
L667_LATA1_408 L667 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS

TRAVER Sample with LARP
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
P621 (1) (0) 1
. 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 HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 939 2 (65) (1) (84) (0) 2 $
. SUBTABLE HNPACODE
. 61362 6136630008 HNPA 0
. 6211001 6211001 LRTE 666
. SUBTABLE RTEREF
. 666 N D ISUPITOG 10 6136671022 N
. EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LNP Info: Called DN is resident.

TRAVER Sample with LARP
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L667 (5) OPTL N N Y
. SUBTABLE LCASCR
. 613 613
TABLE LCASCRCN
613 L667 (5) OPTL N N Y
. SUBTABLE LCASCR
. TUPLE NOT FOUND. DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL NP N DD UNDT
TABLE CLSVSCRC
KEY NOT FOUND
TABLE LATAXLA
TUPLE NOT FOUND
AIN Info Collected TDP: no subscribed trigger.
Checking AIN SDS Trigger Items as SDS is compatible with current call
AIN Info Analyzed TDP: trigger criteria not met.
+++ TRAVER: SUCCESSFUL CALL TRACE +++
NOTE: Perform a response traver with LARP on 20 TKTERM_SIM
if this involves an FC response.
AIN Term Attempt TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information

TRAVER Sample with LARP
DIGIT TRANSLATION ROUTES
1 ISUPITOG 6136671022 ST
TREATMENT ROUTES. TREATMENT IS: GNCT
1 *OFLO
2 LKOUT
+++ TRAVER: SUCCESSFUL CALL TRACE +++

When the LARP is not provisioned for TKTERM trigger, a different warning message indicating that Forward_Call response TRAVER will not be successful without LARP. Please refer to the example below.

TRAVER output without LARP
TRAVER L 6671001 6136211001 B
TABLE LINEATTR
408 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_408 L667_LATA1_408 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_408 C667 613 P621 TSPS N $ $
TABLE RATEAREA
L667_LATA1_408 L667 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID

TRAVER output without LARP
AIN Orig Attempt TDP: no subscribed trigger.
TABLE STDPRTCT
P621 (1) (0) 1
. 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 HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 939 2 (65) (1) (84) (0) 2 $
. SUBTABLE HNPACODE
. 61362 6136630008 HNPA 0
. 6211001 6211001 LRTE 666
. SUBTABLE RTEREF
. 666 N D ISUPITOG 10 6136671022 N
. EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L667 (5) OPTL N N Y
. SUBTABLE LCASCR

TRAVER output without LARP
. 613 613 TABLE LCASCRCN 613 L667 (5) OPTL N N Y . SUBTABLE LCASCR . TUPLE NOT FOUND. DEFAULT IS NON-LOCAL TABLE PFXTREAT OPTL NP N DD UNDT TABLE CLSVSCRC KEY NOT FOUND TABLE LATAXLA TUPLE NOT FOUND AIN Info Collected TDP: no subscribed trigger. Checking AIN SDS Trigger Items as SDS is compatible with current call AIN Info Analyzed TDP: trigger criteria not met. +++ TRAVER: SUCCESSFUL CALL TRACE +++ NOTE:LARP option not datafilled for 20 TKTERM_SIM trigger. FC response may not be valid. AIN Term Attempt TDP: trigger criteria met. Querying the database would occur now. Use the AINMQG option to save the query to a file for use in TstQuery. Use the AINRES option for further information DIGIT TRANSLATION ROUTES 1 ISUPITOG 6136671022 ST TREATMENT ROUTES. TREATMENT IS: GNCT

TRAVER output without LARP
1 *OFLO
2 LKOUT
+++ TRAVER: SUCCESSFUL CALL TRACE +++

39.3.2 Response Processing

Response TRAVER has been enhanced for TKTERM to support following responses:

- Forward Call
- STR

Forward Call response TRAVER is valid for TKTERM trigger when LARP option is provided in the command line along with AINRES option.The TRAVER command line for FC response will look like:

```
> TRAVER TR <OUTOGING_TRUNK> N CDN NA 6136671002 AINRES R02 FC
LARP <TDP> <TINAME> B/T/NT
```

Please refer to the example below for a sample TRAVER.

FC Response TRAVER output
>TRAVER TR ISUPITOG N CDN NA 6136671002 AINRES R02 FC LARP 20 TKTERM_SIM B
Warning: Routing characteristics are present.
Originator must be able to send in
characteristics specified.
Warning: Originator’s Line attributes are being overridden
by those provided by the LARP option from the
corresponding tuple in TABLE TRIGITM
TABLE RTECHAR
. LECNA (CDN NA $) (BC 3_1KHZ (CDN NA)$)$
TABLE LINEATTR
403 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 416_PUB_403 L416_LATA1_400 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN

FC Response TRAVER output
416_PUB_403 NSCR 416 PUB TSPS Y RESG416 0 0 $ $
TABLE RATEAREA
L416_LATA1_400 L416 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
TABLE PXLAMAP
. LECNA PUB (XLA PUB) $
TABLE STDPRTCT
PUB (1) (0) 4
. 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 HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
416 Y 772 1 (1) (1) (4) (0) 4 $
. SUBTABLE HNPACODE

FC Response TRAVER output
. 613667 6136737100 HNPA 0
. 667 667 DN 613 667
TABLE TOFCNAME
613 667 $
TABLE DNINV
613 667 1001 L HOST 01 0 00 02
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
416 L416 (27) OPTL N N Y
. SUBTABLE LCASCR
. 613 613
TABLE LCASCRCN
613 L613 (44) OPTL N N
. SUBTABLE LCASCR
. 667 667
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
KEY NOT FOUND
Checking AIN SDS Trigger Items as SDS is compatible with current call
AIN Info Analyzed TDP: trigger criteria not met.

FC Response TRAVER output
AIN Term Attempt TDP: no subscribed trigger.
+++ TRAVER: SUCCESSFUL CALL TRACE +++
Warning: Originator's Line attributes are being overridden
by those provided by the LARP option from the
corresponding tuple in TABLE TRIGITM
DIGIT TRANSLATION ROUTES
1 LINE 6136671002 ST
TREATMENT ROUTES. TREATMENT IS: GNCT
1 *OFLO
2 LKOUT
+++ TRAVER: SUCCESSFUL CALL TRACE +++

FC Response Sample TRAVER outputSTR response TRAVER is valid for TKTERM trigger when there is a valid entry in table STRATTRS.The TRAVER command line for STR response will look like:

```
> TRAVER TR <OUTGOING_TRUNK> N CDN NA 4164671002 AINRES R02 STR
B/T/NT
```

The following example is a traver to check the STR response to an local IP resource (which is connected to the SSP via PRI trunk).

STR Response Sample TRAVER output
>TRAVER TR ISUPITOG N CDN NA 4164671002 AINRES R02 STR B
Warning: Routing characteristics are present.
Originator must be able to send in
characteristics specified.
TABLE RTECHAR

STR Response Sample TRAVER output
. LECNA (CDN NA $) (BC 3_1KHZ (CDN NA)$)$
Warning: Originator's Line attributes are being overridden by STRATTRS
TABLE STRATTRS
4164671002 4164671002 403 416_PUB_403 L416_LATA1_400
TABLE LINEATTR
403 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 416_PUB_403 L416_LATA1_400 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
416_PUB_403 NSCR 416 PUB TSPS Y RESG416 0 0 $ $
TABLE RATEAREA
L416_LATA1_400 L416 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP TIID
TABLE PXLAMAP
. LECNA PUB (XLA PUB) $
TABLE STDPRTCT
PUB (1) (0) 4
. SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING. CALL TYPE DEFAULT IS NP. PLEASE REFER TO
DOCUMENTATION.
. 4164671002 4164671002 T DD 0 OFRT 897 0 0 NONE
. . TABLE OFRTMAP

STR Response Sample TRAVER output
. . . Tuple not found. Default to old index. . . TABLE OFRT . . 897 CND EA INTNL SK 2 . . N D PRASID2W 0 N N . . CND ALWAYS SK 1 . . N D PRASID2W15 D179 N . . EXIT TABLE OFRT . SUBTABLE AMAPRT . KEY NOT FOUND . DEFAULT VALUE IS: NONE OVRNONE N TABLE HPCPATTN TUPLE NOT FOUND TABLE LATAXLA TUPLE NOT FOUND ASSUMED TO BE DEFAULT INTRALATA, INTRASTATE, STD +++ TRAVER: SUCCESSFUL CALL TRACE +++ Warning: Originator's Line attributes are being overridden by STRATTRS DIGIT TRANSLATION ROUTES 1 PRASID2W 4164671002 ST TREATMENT ROUTES. TREATMENT IS: GNCT 1 *OFLO 2 LKOUT +++ TRAVER: SUCCESSFUL CALL TRACE +++

40 Datafilling for responses

This chapter and Chapter 41: “Analyze_Route response” through Chapter 48: “Send_To_Resource response” deal with the datafilling requirements of the service switching point (SSP). Datafilling requirements allow the SSP to properly handle the responses received from an off-board processor (assuming the response messages are valid).

Table 408 illustrates the relationship between the AIN Service Enablers trigger detection points (TDPs) and response messages.

Table 408 AIN response–TDP relationship

	Trigger Detection Points						
Response message	OriginationAttempt	Information Collected	Information Analyzed	Network Busy	Termination Attempt	T_Busy	TRA
Analyze Route	Res.	Res.	Res.	Res.	N/A	N/A	N/A
Continue	N/A	RES. Supported for Infocol if SOC AIN00210 is ON.	Res.	N/A	N/A	Res./Conv.	Res./ Conv.
Authorize Termination	N/A	N/A	N/A	N/A	Res.	N/A	N/A
Forward Call	N/A	N/A	N/A	N/A	Res.	Res./Conv.	Res./ Conv.
Disconnect	Res.	Res.	Res.	Res.	Res.	N/A	N/A
Send to Resource	Res./Conv.	Res./Conv.	Res./Conv.	Res./Conv.	Res./Conv.	N/A	Res./ Conv.
Cancel Resource	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 408 AIN response–TDP relationship

	Trigger Detection Points						
Response message	OriginationAttempt	Information Collected	Information Analyzed	Network Busy	Termination Attempt	T_Busy	TRA
Offer_Call	N/A	N/A	N/A	N/A	N/A	Res./Conv.	N/A
Res. = Response Conv. = Conversation							

41 Analyze_Route response

41.1 General

The Analyze_Route (AR) response message can be received at the SSP from an off-board processor. It is sent in response to an AIN Service Enablers query from the following trigger detection points (TDPs):

- ORIGATT
- INFOCOL
- INFOANAL
- NETBUSY
- O_CalledPartyBusy (O_CPB)
- O_NoAnswer (O_NoA)
- OFCPFC

The response message requests the SSP to resume call processing, taking into account the address, routing, and billing information provided in the message parameters.

> ***Note:*** When a call encounters an AIN trigger and receives an Analyze_Route response with multiple routes (and one of the routes contains an announcement that is datafilled with an S selector) and the call connects to that announcement, then Analyze_Route processing terminates.

41.2 Overriding line attributes

Overriding line attributes replace the originator's line attributes during response processing, when triggers SDS/PFC/N11 with overriding line attributes receives an Analyze_Route response from the SCP. Overriding line attributes provide a method for the customer to overcome the toll restrictions imposed by the originator's line attributes.

The LARP option provides overriding line attributes during post query processing for triggers. This option allows overriding line attributes to be assigned against individual trigger items that replace the originator line attributes during response processing. When this option is not specified, the originator line attributes are used.

41.3 SSP routing algorithm

The routing algorithm that the SSP uses is as follows:

- When one or more routing lists are present, the SSP attempts to route on these lists first. The primary trunk group is first, the alternate trunk group is second (when present), and the second alternate trunk group is third (when present).
  - When one or more carriers are present, the SSP attempts to route on these carriers only after trying to route on the routing lists. The primary carrier is first, the alternate carrier is second (when present), and the second alternate carrier is third (when present).
  - When the called party number (CDN) is present, the SSP attempts to route on it only after trying to route on the routing lists, and only when there is no carrier or carrier ID 0110 is specified.
- When the last address that the SSP attempts to route on is a routing list or carrier and it is busy, then the call goes to general no circuit treatment (GNCT). When the SSP attempts to route on a routing list, call processing resumes at the selecting route point in call.
- When the SSP attempts to route on a carrier or a CDN, call processing resumes at the analyzing information (INFOANAL) point in call (PIC). As the call proceeds to the selecting route PIC, it encounters the INFOANAL trigger detection point (TDP). The call skips this TDP when the carrier specified is an inter-exchange carrier (IEC). The call does not skip the INFOANAL TDP when
  - the carrier specified is a local-exchange carrier (LEC)
  - the carrier specified is an operating telephone company (OTC) carrier
  - the carrier specified is the AIN Default Carrier (see section Section 6.6.1 “Analyze_Route message” on page 258)
  - the SSP is attempting to route on the CDN with no carrier

41.3.1 CarrierUsage algorithm for SSP routing

The order of the carrier list is as follows: primary carrier, alternate carrier and second alternate carrier. When the carrier selected is not capable of handling the call type, the call routes to treatment. The SSP selects a carrier when the SCP does not send one.

The support for parameter Carrier Usage enhances existing functionality by allowing the carriers that are sent by the SCP to be used as PIC (preferred carriers) rather than CAC (dialed carriers). Parameter CarrierUsage has three values:

- AlwaysOverride
- InterLataOverride
- OverridePICsOfNOCsSent

AlwaysOverride: When the value of the CarrierUsage parameter received is AlwaysOverride, and when the SCP sends a carrier in the message, it is treated the same way as if CarrierUsage parameter was not received. When a carrier is sent by the SCP, it will be used for routing.The carrier list is in the order primary carrier, alternate carrier and second alternate carrier. When the carrier selected is not capable of handling the calltype, then the call is routed to treatment. The SSP selects a carrier only when the SCP does not send one. The order in which SSP based carrier is selected is as follows:

- carrier in the trigger line attributes (PODPATTR/LARP)
- carrier dialed by the user or the carrier returned by a previous AIN response
- the pre subscribed carrier of the originator
- the local exchange carrier (Only for Local and IntraLata calls)
- the default office carrier (Only for InterLata Calls).

When the call cannot route over the carriers selected from the SSP-based carriers, the call routes to treatment. When an Interlata number attempts to route over a Local Exchange Carrier (0110), trigger analysis will be performed. If no trigger is detected, then the call routes to treatment.

InterLataOverride:When the value of received parameter CarrierUsage parameter is InterLataOverride, the carrier sent by the SCP is used only when the call type (determined from the CalledPartyID parameter) is InterLata. The order of the carrier list is alternate carrier and second alternate carrier. When the carrier selected cannot handle the call type, the call routes to treatment. When the call type is InterLata and no carrier is sent by the SCP, the call routes to treatment. When the call type is not InterLata, the SSP selects a carrier in the following order and discards the carrier sent by the SCP:

- LPIC carrier in the carrier in the trigger line attributes (PODPATTR/LARP). (for IntraLata calls only)
- CAC dialed by the originator or the carrier provided by the previous SCP response that would have been used for routing. (Only for IntraLata Calls)

- triggering agent's LPIC (for IntraLata calls only)
- local exchange carrier (0110) (for local calls only)

Note 1: The CAC dialed by the originator, or the carrier provided by the previous SCP response would be used to route the call (when eligible) for IntraLata calls only. Local calls do not use the above type of carrier; the calls route as line-to-line calls.

Note 2: Trigger analysis is performed when an Interlata number attempts to route over a Local exchange carrier (0110). If no trigger is detected, the call routes to treatment.

OverridePICsOfNOCsSent: When the value of received parameter CarrierUsage is OverridePICsOfNOCsSent, the carrier selected for routing is based on the value of the NatureOfCarrier (NOC) received in parameter CarrierID. The steps to select a carrier after an SCP message is received with a parameter CarrierUsage value of OverridePICsOfNOCsSent are as follows:

1. Verify that the SCP provided one or more carriers. When the SCP provides no carrier, the call routes to treatment and a Fatal Missing Conditional Parameter error is sent to the SCP.
2. The first carrier is selected from the list of available carriers.
3. The Value of parameter NatureOfCarrier is checked. When the value is "NoNOCProvided", the carrier is treated as invalid.
4. When the NOC has a valid value, a check occurs to make sure that the carrier sent by the SCP can carry the type of traffic mentioned in the NOC. When the carrier can carry the type of traffic mentioned in the NOC, the carrier is treated as valid. When the carrier cannot carry the type of traffic mentioned in the NOC, the carrier is treated as invalid.
5. The next carrier sent by the SCP is validated. Repeat steps 3 and 4.
6. When all carriers are checked and there are no valid carriers, the call routes to treatment.
7. When there is a valid carrier, the carrier that has an NOC that matches the call type of the call is selected for routing. When no carriers have an NOC

that matches the call type, the SSP selects a carrier in the following order of preference:

a. carrier in the trigger line attributes (PODPATTR/LARP)

b. carrier dialed by the user or the carrier returned by a previous AIN response (only for IntraLata and InterLata calls)

c. carrier of the pre subscribed triggering agent

d. local exchange carrier (for local and IntraLata calls)

e. default office carrier (for InterLata Calls)

> ***Note:*** In the case of local calls, the only SCP returned carrier allowed is ‘0110’ (local exchange carrier). When the SCP sends a 0110 carrier with an NOC of Local and the call type is local, the call routes using 0110. When the previously mentioned condition is not met, the call routes to treatment; the SSP does not select a carrier.

f. When the valid carrier selected for routing meets with a route busy condition, the next available valid carrier is selected for routing.

> ***Note:*** When the list of carriers sent by the SCP is exhausted and the route is busy for all carriers, the network busy condition is met. CAC dialed by the originator or the carrier provided by the previous SCP response is then used to route the call (when eligible) for IntraLata calls only. Local calls do not use the previously mentioned type of carrier; the call routes as a line-to-line call.

41.3.2 Trigger analysis based on CarrierUsage algorithm

The table that follows describes possible scenarios for trigger analysis.

Table 409 Scenarios for Trigger Analysis

CarrierUsage parameter	Call type	Carrier in the response	Comments
0			
0	Any	0110/OTC Carrier	trigger analysis performed
0	Any	Any carrier other than 0110/OTC carrier	no trigger analysis performed
0	Any	No Carrier	trigger analysis done
1	Interlata	Valid carrier for Interlata traffic	trigger analysis done on the SCP returned carrier

Table 409 Scenarios for Trigger Analysis

CarrierUsage parameter	Call type	Carrier in the response	Comments
1	Not Interlata	Any	trigger analysis done on the SSP based carrier selected for routing
2	Any	Any	CalledPartyId subjected to trigger analysis when a valid carrier (from the SCP or the SSP) was selected for routing

41.3.3 Parameter CarrierUsage

The CalledPartyID determines the call type of a call. CarrierUsage uses the call type to select a carrier for routing. There is no impact on existing functionality of CalledPartyID.

Parameter Carrier contains the primary carrier that can be selected for routing. The carrier in parameter Carrier need not be used when no trunk group parameters are present. The carrier selected depends on the value of parameter CarrierUsage and the call type (determined by the digits in the CalledPartyID).

Both the AlternateCarrier and the SecondAlternateCarrier are impacted by parameter CarrierUsage because the carrier selected depends on the value of parameter CarrierUsage and the call type (determined by the digits in the CalledPartyID).

41.4 Datafilling requirements for the SSP

It is important to take into account the unique characteristics of the address parameters in the response message when preparing the SSP to handle an AR response. The address parameters of concern in the response message are as follows:

- routing lists, that is, trunk group IDs (primary trunk group, alternate trunk group, and second alternate trunk group)
- carrier IDs (primary carrier, alternate carrier, and second alternate carrier)
- CDN

To send a call over routing lists, see Section 41.5 “Routing on a routing list” on page 963.

To send a call based on the carrier only, a called party number only, or a carrier with a called party number, see Section 41.6 “Routing on a carrier, a called party number, or a carrier with a called party number” on page 967.

Chapter 52: “Provisioning for post-response translations” on page 1101 through Chapter 53: “Options for offices supporting only 7-digit dialing for home numbering plan” on page 1105 contain detailed information on how to set up the datafill to route a call on a carrier, Called Party Number or a carrier with a Called Party Number. TRAVER examples are also included in this document.

41.5 Routing on a routing list

This section provides information on SSP handling of a route index.

41.5.1 SSP route index tables

One of the following tables on the DMS SSP requires datafill, depending on the route index in parameter Trunk Group ID.

- OFRT
- OFR2
- OFR3
- OFR4
- IBNRTE
- IBNRT2
- IBNRT3
- IBNRT4

The routing index (received from an off-board processor) is eight digits, encoded using binary-coded decimals (BCDs).

41.5.2 Example

Steps 1 to 3 following Table 410 explain SSP preparation for handling a route index received as part of the Trunk Group ID parameters in the AR message.

Table 410 BCD encoded route index

H	G	F	E	D	C	B	A
0	0	0	0	1	0	2	9

41.5.2.1 Step 1: Converting the route index from BCD format into an integer format

The SSP verifies that the digit field contains a value from 0 to 9 inclusive. Then, it converts the digits into an integer by concatenating the digits. In the example, the corresponding route index in integer format is 1029.

41.5.2.2 Step 2: Finding the DMS routing table and routing index

Using the routing index in integer format, see Table 411 to identify the DMS routing table and routing index.

Table 411 Trunk Group routing index to DMS routing table and index

Trunk Group routing index	DMS routing table name	DMS routing index
1 to 1023	OFRT	1 to 1023
1025 to 2047	OFR2	1 to 1023
2049 to 3071	OFR3	1 to 1023
3073 to 4095	OFR4	1 to 1023
10241 to 11263	IBNRTE	1 to 1023
11265 to 12287	IBNRT2	1 to 1023
12289 to 13311	IBNRT3	1 to 1023
13313 to 14335	IBNRT4	1 to 1023

For example, routing index 1029 corresponds to row 2 of Table 411 (1025 to 2047). Thus, the DMS routing table to be datafilled is OFR2. The DMS routing index is derived by subtracting the first number in the range in column 1 of row 2 (that is, 1025) from the routing index and adding 1. In our example, 1029 - 1025 + 1 = 5.

41.5.2.3 Step 3: Validating the route

First, ensure that the route requested by the off-board processor has been datafilled on the DMS SSP and the selectors used are supported for AIN.

Table 412 and Table 413 on page 965 list the routing selectors supported for AIN.

Table 412 Selectors supported for tables OFRT, OFR2, OFR3, and OFR4

Routing selector’s name	Routing selector
Integrated service access	ISA
Two stage outpulsing	TS

Table 412 Selectors supported for tables OFRT, OFR2, OFR3, and OFR4 (Con-

Routing selector's name	Routing selector
Standard Digit Manipulation	S
No Position for ANI failure or ONI.	NPOS
Normal outpulsing	N
AFR trigger	AFR
Table	T
Same Table	ST
Directory number	DN
Dynamically controlled routing selectors	DCRT
	NODE
Treatment selector	TRMT

Table 413 Selectors supported for tables IBNRTE, IBNRT2, IBNRT2, and IBNRT4

Routing selector's name	Routing selector
Integrated Service Access	ISA
Standard Digit Manipulation	S
Normal outpulsing	N
Virtual Facility Group	VFG
Outwats	OW
AFR trigger	AFR
Table	T
Directory number	DN
Treatment selector	TRMT

The SCP can send an AR message containing one or more TrunkGroup parameters to route the call to a or can send a physical or simulated [private facility. In that case, each TrunkGroup parameter, when included, specifies whether the route index points to physical or simulated facilities, and whether the route uses the CalledPartyID or OutpulseNumber parameter. Specifically,

- when the TrunkGroup parameter indicates “normal routing number”, the CalledPartyID is used.
- when the TrunkGroup parameter indicates “outpulsing number”, the OutpulseNumber parameter is used.

When a route is unacceptable, that is, it contains a selector that is not supported or a routing index that is not datafilled on the switch, the DMS discards the trunk group parameter. All subsequent address parameters in the message are also discarded.

When a TRMT selector is encountered in a route list provided the SCP (ex. primary trunk group), the TRMT selector is skipped and the call is routed over the alternate route list/s provided by the SCP(ex. alternate trunk group). If alternate route list/s are not provided by the SCP, then the call is routed to treatment.

For example , let us consider that the SCP provides primary trunk group, alternate trunk group and secondary alternate trunk group in the AR response. If we encounter a TRMT selector in the primary trunk group routing list provided by the SCP, then the TRMT selector shall be considered as the end of the primary trunk group routing list and the routing elements in the alternate trunk group routing list shall be taken up for processing. Again, if the TRMT selector is encountered in the alternate trunk group routing list , then the routing elements in the secondary alternate trunk group routing list shall be taken up for processing.If the TRMT selector is encountered in the secondary alternate trunk group routing list ,then the call is routed to treatment.

If netbusy is armed in the AR response and we encounter a TRMT selector in the last routelist provided by the SCP, then netbusy event will be encountered.

In our example, the corresponding tuple for routing index 5 in table OFR2 is shown in Table 414. It indicates that route index 1029 is routed over an outgoing trunk called ISUPTOOG, using Standard Digit Manipulation.

Table 414 Sample tuple using the selector in table OFR2

RTE	ROUTELIST
5	(S D ISUPTOOG)

Note: TRAVER cannot be used to verify that the SSP has been set up properly to handle an AR message with trunk group ID parameters because the trunk group ID option is not supported by TRAVER.

41.6 Routing on a carrier, a called party number, or a carrier with a called party number

See Chapter 52: “Provisioning for post-response translations” on page 1101 through Chapter 53: “Options for offices supporting only 7-digit dialing for home numbering plan” on page 1105 for details.

41.7 Routing characteristics and digits used in translations

There are many carrier and CDN combinations that can be received in an AR response. When routing on a carrier, a CDN, or a carrier with a CDN, the following routing characteristics can be used to route a call:

- CDN (nature of number in the Called PartyID) values can be either NA (national), IN (international), and UNK (unknown). The default is UNK.
- OSA (operator service access) values can be PUBP (public principle, send call to operating company operator), or PUBA (public alternate, send call to an interexchange carrier operator), or NIL (the default).
- OSA can also be PRIV (private) though this value is not used by AIN.
- TNS (transit network selector) values can be either NA (national) or NIL (the default).
- When the DMS-100 switch has package NTX767 or NTX768, the bearer capability (BC) should also be considered.

It is necessary to understand the use of XXX and XXXX, 10XXX and 101XXXX. The off-board processor always sends a 4-digit carrier, however, sometimes DMS-100 switch can interpret it as a 3-digit carrier code. The algorithm is detailed in Table 415.

Table 415 XXX carrier vs. XXXX carrier

Office parameter EAEO_FOUR_DIGIT_CIC_STATUS	Carrier received	Result
THREEDIG	0XXX	Use as XXX or 10XXX
	NXXX, where N does not equal 0	Disregard carrier parameter
PERMISSIVE	0XXX	Use as XXX or 10XXX
	5XXX or 6XXX	Use as XXXX or 101XXXX
	YXXX, where Y does not equal 0, 5 or 6	Disregard carrier parameter
FOURDIG	XXXX	Use as XXXX

Table 416 summarizes different carrier and CDN combinations and their corresponding routing characteristics that can be received in an AR response.

Table 416 Carrier and Called Party Number combination, and the corresponding routing characteristics

Nature of number in CalledPartyID	Digits (CDN)	Carrier ID	CDN	OSA	TNS
National number	10D	XXX	NA	NIL	NA
International number	7-15D	XXX	IN	NIL	NA
No address present, operator requested	0D	XXX	UNK	PUBA	NA
National number, operator requested	10D	XXX	NA	PUBA	NA
International number, operator requested	7-15D	XXX	IN	PUBA	NA
National number	10D	XXXX	NA	NIL	NA
International Number	7-15D	XXXX	IN	NIL	NA
No address present, operator requested	0D	XXXX	UNK	PUBA	NA
National number, operator requested	10D	XXXX	NA	PUBA	NA
International number, operator requested	7-15D	XXXX	IN	PUBA	NA
National number	10D	Not Present	NA	NIL	NIL
International number	7-15D	Not Present	IN	NIL	NIL
No address present, operator requested	0D	Not Present	UNK	PUBP	NIL
National number, operator requested	10D	Not Present	NA	PUBP	NIL
International number, operator requested	7-15D	Not Present	IN	PUBP	NIL
Carrier cut-through	Not present	XXX	UNK	NIL	NA
Carrier cut-through	Not present	XXXX	UNK	NIL	NA

Note 1: When one of the carrier parameters contains a LEC (identified by 110), the DMS translates as though the carrier were not present.

Note 2: The last two rows of the table are allowed in an end office only.

Note: When the AIN default carrier is used during response translations, the TNS routing characteristics contain the value NA.

Table 417 on page 969 summarizes the digits used in translation for various carrier and Called Party Number combinations. Once the call is in the POTS environment, the fields FROMDIGS and TODIGS in subtable STDPRT of table STDPRTCT must be set according to the digits in the translation.

Table 417 Digits used in translation

Nature of number in CalledPartyID	Digits (CDN)	Carrier ID	Digits used in translations for an end office	Digits used in translations for an access tandem
National number	10D	XXX	10XXX+(10)D	XXX+(10)D
International number	7-15D	XXX	10XXX+(7-15)D	XXX+(7-15)D
No address present, operator requested	0D	XXX	10XXX0	XXX0
National number, operator requested	10D	XXX	10XXX0+(10)D	XXX0+(10)D
International number, operator requested	7-15D	XXX	10XXX0+(7-15)D	XXX0+(7-15)D
National number	10D	XXXX	101XXXX+(10)D	XXXX(10)D
International number	7-15D	XXXX	101XXXX+(7-15)D	XXXX+(7-15)D
No address present, operator requested	0D	XXXX	10XXXX0	XXXX0
National number, operator requested	10D	XXXX	101XXXX0+(10)D	XXXX0+(10)D
International number, operator requested	7-15D	XXXX	101XXXX0+(7-15)D	XXXX0+(7-15)D
National number	10D	Not Present	(10)D	
International number	7-15D	Not Present	(7-15)D	
No address present, operator requested	0D	Not Present	0	
National number, operator requested	10D	Not Present	0+(10D)	
International number, operator requested	7-15D	Not Present	0+(7-15)D	
Carrier cut-through	Not present	XXX	10XXX	N/A
Carrier cut-through	Not present	XXXX	101XXXX	N/A

Table 417 Digits used in translation (Continued)

Nature of number in CalledPartyID	Digits (CDN)	Carrier ID	Digits used in translations for an end office	Digits used in translations for an access tandem
Note: A national number is supported only when it is a 10-digit number, an N11 number, or a 950-XXXX number. Table 417 on page 969 shows the 10-digit number configuration.				

41.7.1 Example

An AR is required with CDN NA 6136210501 and no carrier is received at the SSP end office. Neither NTX767 nor NTX768 is present. From Table 250 on page 807, identify the routing characteristics of the call as CDN = NA, OSA = NIL, and TNS = NIL. The digits used in translation are 6136210501.

41.7.2 Some SSP routing options

It is also possible for an AR response to instruct the SSP to route the call as an

- OSA (Operator Service Access) Zero Minus call

  A CDN with no digits and no carrier is received in the AR response
- OSA Zero Plus call

  A CDN with digits but no carrier is received in the AR response
- Carrier cut-through call

  Only a carrier, but no Called Party Number, is received in an AR response in an end office
- International call

  An International CDN is received in the AR message.

Unless the originator is an IBN agent (Case 1) or an IT trunk receiving an equal access (EA) carrier in an AT office (Case 2), datafill for all these types of call is the same as for a non AIN call. However, digits used in translation must be obtained from Table 251 on page 808.

Operator Services are not supported by CarrierUsage functionality. When the SCP message returns an operator-assisted number, parameter CarrierUsage is ignored and the call is processed and routed with a CarrierUsage value of ‘AlwaysOverride’.

41.8 Datafilling tables RCNAME and RTECHAR

Table RTECHAR associates an RCNAME with several routing characteristics. The RCNAME is used throughout the translations and routing to select a route based on the routing characteristics of the call.

When the routing characteristics that are returned in the Analyze_Route response message and the routing characteristic (BC) that is signaled in from the originating agent (and used in the response translations) are not properly datafilled in table RTECHAR, the response is not translated properly and a DFIL320 log report is generated. When the response is due to an LNP trigger and the returned LRN matches the original dialed digits, a DFIL320 log report is not generated.

A routing characteristic name must be datafilled in table RCNAME before it can be referenced from table RTECHAR.

Figure 263 on page 971 and Figure 264 on page 972 show sample datafill in table RCNAME and table RTECHAR. These RCNAMEs are used throughout this chapter.

Figure 263 Sample AR RCNAMEs defined in table RCNAME

```
TAB RTECHAR

CDNPUB
TNSPUB
OSAAPUB
OSAPPUB
OSAAPBZM
CICONLY
```

Figure 264 Sample AR RCNAMEs and their routing characteristics in table RTECHAR

```
TAB RTECHAR

CDNPUB
(CDN NA $)
 (CDN IN $)
( BC 3_1KHZ (CDN NA) $)
( BC 3_1KHZ (CDN IN) $) $

TNSPUB
(CDN NA (TNS NA) $ )
(CDN IN (TNS NA) $)
(BC 3_1KHZ (CDN NA) (TNS NA) $) $

OSAAPUB
(OSA PUBA (CDN NA) (TNS NA) $)
(OSA PUPB (CDN IN) (TNS NA) $)
(BC 3_1KHZ (OSA PUBA) (CDN NA) (TNS NA) $ )
 (BC 3_1KHZ (OSA PUBA) (CDN IN) (TNS NA) $ )$

OSAPPUB
(OSA PUBP (CDN NA) $)
(OSA PUBP (CDN IN) $)
 (BC 3_1KHZ (OSA PUBP) (CDN NA) $)
 (BC 3_1KHZ (OSA PUBP) (CDN IN) $ ) $

CICONLY
(TNS NA $) $
```

The routing characteristics identified in the example correspond to the (CDN NA) entry under the RCNAME CDNPUB.

The TRAVER utility can be used to verify that the call picks up the RCNAME in translation. Figure 265 shows a sample TRAVER output for a call when the routing characteristics are present.

Figure 265 Finding the AR RCNAME

```
traver l 7224011 n cdn na 6136210501 tns na cic 777 ainres r01 ar b
Warning: Routing characteristics are present.
 Originator must be able to send in
 characteristics specified.
TABLE RTECHAR
 . TNSPUB (CDN NA (TNS NA)$) (CDN IN (TNS NA)$) ( BC 3_1KHZ (CDN NA)
(TNS NA)$) ( BC 3_1KHZ (CDN IN) (TNS NA)$)$
TABLE IBNLINES
HOST 00 0 02 18 0 DT STN IBN 7224011 COMKODAK 0 0 613 $
.......
```

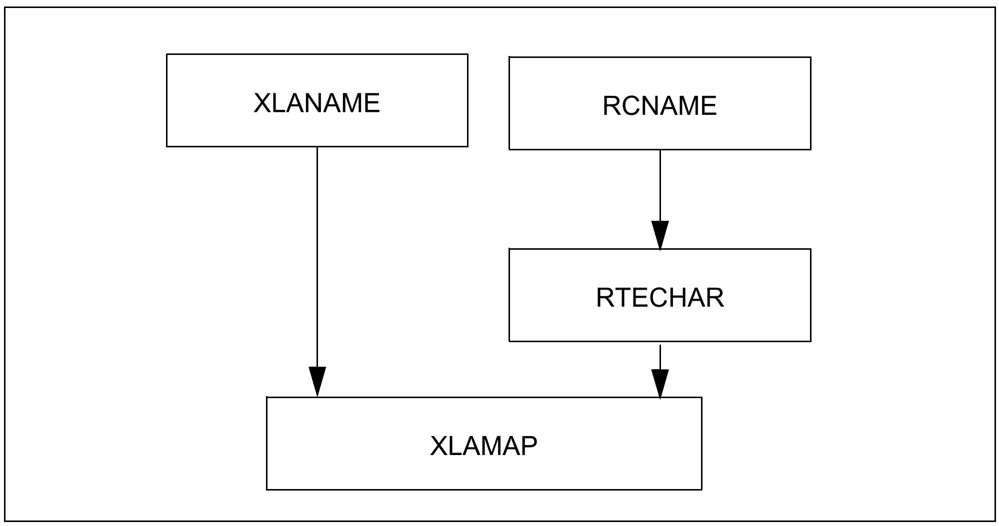
41.9 Datafilling IBN-originated calls

For IBN-originated calls the private dialing plan is enforced. However, the CDN is received as a public number. The translations have to be moved to the public environment using the Integrated Services Digital Network (ISDN) routing characteristics tables.

41.9.1 Tables to be datafilled

Figure 266 illustrates the datafill hierarchy to move a call from the private to the public environment.

Figure 266 AR datafill hierarchy for moving a call from the private to the public environment



Assuming that the tables RCNAME and RTECHAR have already been datafilled, only the tables XLANAME and XLAMAP need to be datafilled. Table XLANAME must be datafilled before table XLAMAP.

41.9.2 Walk-through example

A call originates from an IBN line (DN 7224011) and triggers from the private environment at any TDP except TERMATT. An AR response is received that instructs the call to route based on a national CDN (6136210501) and a carrier (777).

41.9.2.1 Step 1: Datafilling table XLANAME

The new pretranslator name must be defined in table XLANAME before it can be referenced in table XLAMAP. It is used to move the translations to the public environment.

Table 418 on page 974 shows the tuple used in the walk-through example.

Table 418 Sample tuple in table XLANAME

XLANAME	TRSEL	Other fields	NET_TYPE	OPTION	LINATTR	Other fields
AINPUB *	NET	......	GEN	LATTR	0	......
* Pre-translator AINPUB allows a call to go into the POTS environment with the GEN selector. The call is routed to a line with the LINATTR index 0.						

41.9.2.2 Step 2: Datafilling table XLAMAP

Table XLAMAP is used to replace the predefined pretranslator with a new pretranslator for IBN calls. The new pretranslator, defined in XLANAME in Step 1, must already be datafilled.

Table 419 shows the tuple used in the walk-through example.

Table 419 Sample tuple in table XLAMAP

XLAKEY	SEL	NEWXLA
TNSPUB PXDK	XLA	AINPUB
Where: TNSPUB is the RCNAME associated with the call. PXDK is the pre-defined pretranslator for the call. XLA is needed for replacing the pre-translator specified in XLAKEY with the pretranslator specified in field NEWXLA. AINPUB is the new pre-translator for the call. It was datafilled in the XLANAME table from Step 1.		

41.9.2.3 Step 3: Verifying with TRAVER

TRAVER can be used to verify that the call is translated correctly. The routing characteristics of the call must be specified in the TRAVER command.

Figure 267 provides a sample TRAVER output for the walk-through example. It indicates the translation order.

> ***Note:*** The sample output in Figure 267 is not complete. It provides only the required section necessary to illustrate moving translations from the private to the public environment, based on RCNAME.

Figure 267 Sample AR TRAVER output (moving translation from IBN to POTS)

```
>traver l 7224011 n cdn na 6136210501 ainres r02 ar b
Warning: Routing characteristics are present.
         Originator must be able to send in
         characteristics specified.
TABLE RTECHAR
 . CDNPUB (CDN NA $) (CDN IN $) ( BC 3_1KHZ (CDN NA)$) ( BC 3_1KHZ (CDN
IN)$)$
TABLE IBNLINES
HOST 00 0 02 18 0 DT STN IBN 7224011 COMKODAK 0 0 613 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 6 COL L 1
TABLE XLAMAP
 . CDNPUB PXDK ( XLA AINPUB)$
TABLE IBNXLA: XLANAME AINPUB
TUPLE NOT FOUND
DEFAULT FROM TABLE XLANAME:
AINPUB
    (NET N N 0 N NDGT N N GEN ( LATTR 862 613_AIN1_862 L613_LATA1_0) $ $)$ 9
TABLE DIGCOL
NDGT specified: digits collected individually
TABLE LINEATTR
862 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_AIN1_862 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_AIN1_862 FR01 613 AIN1 TOPS N $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE PXLAMAP
 . Tuple not found. Default to old pretranslator name.
 . NOTE: ISDN Digit Conversion has been performed:
 .       Resulting digits are: 6136210501
TABLE STDPRTCT
AIN1 ( 1) ( 0) 2
```

Figure 267 Sample AR TRAVER output (moving translation from IBN to POTS) (Continued)

```
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT CAN 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 HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 314) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 613 613 HNPA 0
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 0501 L HOST 00 1 13 16
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 613 613
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 621 623
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
TABLE TRIGGRP
OFCTRIGGRP_ALL INFOANAL
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
 . PODP ( DG PODPDIG)$ NIL
```

Figure 267 Sample AR TRAVER output (moving translation from IBN to POTS) (Continued)

```
Trigger AIN PODP is applicable to office.
 . LNP ( DG LNPDIG) ( ESCEA ) ( ESCOP ) ( ESCDN )$ NIL
Trigger AIN LNP is applicable to office.
AIN Info Analyzed TDP: trigger criteria not met.
AIN Term Attempt TDP: no subscribed trigger.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 LINE                  6136210501         ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

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

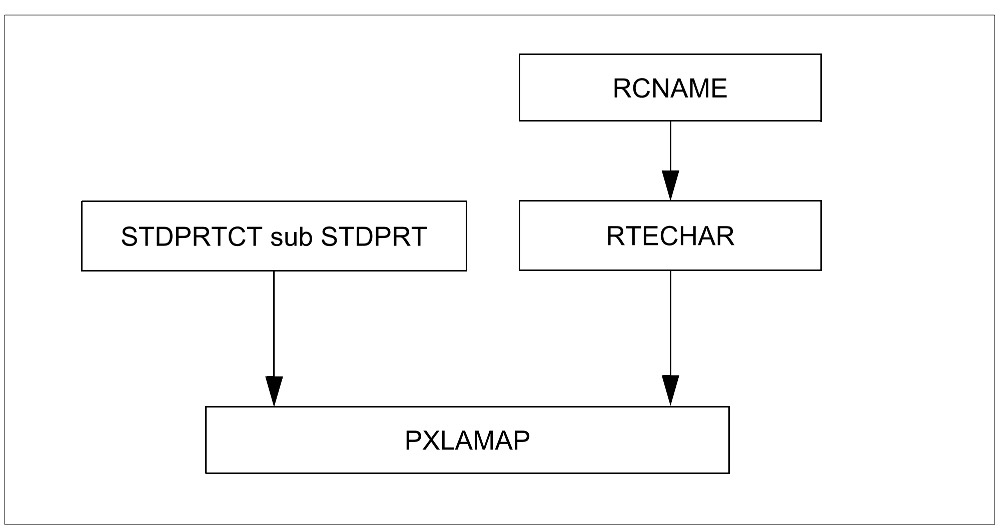
41.10 Datafilling an IT trunk-originated call that receives an EA carrier in an AT office

An EA carrier, specified in the AR message, does not contain the 0ZZ prefix. The SSP must enforce a pretranslator that translates the XXX digits based on the equal access tandem (ET) selector.

41.10.1 Tables to be datafilled

Figure 268 on page 977 illustrates the datafill hierarchy for POTS IT trunk-originated calls that receive an EA carrier.

Figure 268 AR datafilling hierarchy



Assuming that tables RCNAME and RTECHAR have been datafilled, only tables STDPRTCT and PXLAMAP still require datafill. Table STDPRT must be datafilled before table PXLAMAP.

41.10.2 Walk-through example

For a call, originating from a plain ordinary telephone service (POTS) line, to access the ISUPITIC trunk, dial (for example) 6606212502, where 660 is the ISUP IT trunk access code to the outgoing trunk ISUPITOG.

In an AT office, a call, originating from the incoming ISUPITIC (ISUP IT trunk), triggers at an AIN Service Enablers TDP that is valid to receive an AR response. The response is received from the off-board processor with an Equal Access Carrier 777 and a national CDN 6136210000. The SSP routes the call to terminate on DN 6210000.

41.10.2.1 Step 1: Datafill table STDPRTCT and its subtable STDPRT

A new pretranslator must be defined in table STDPRTCT before it can be referenced in table PXLAMAP.

For the walk-through example, first add the new pre-translator name AIN to table STDPRTCT. Then, go to its subtable and add the tuple shown in Table 420.

Table 420 Sample datafill in subtable STDPRT

FROMDIGS	TODIGS	PRERTSEL	Other fields
777	777	ET	DD GTE Y OFRT 896 3 16
Where: 777 is the digits used in translation. ET is the equal access tandem selector. GTE is the carrier name to route the call. 896 is the index into table OFRT.			

41.10.2.2 Step 2: Datafilling table PXLAMAP

Table PXLAMAP is used to replace the predefined pre-translator with a new pre-translator for POTS calls. (See Table 421 for sample tuple.) The new pre-translator defined in Step 1 must be datafilled to replace the predefined pre-translator.

Table 421 Sample tuple in table PXLAMAP

XLAKEY	SEL	NEWXLA
TNSPUB P621	XLA	AIN
Where: TNSPUB is the RCNAME associated with the call. P621 is the pre-defined pretranslator for the call. XLA is needed for replacing the pre-translator specified in XLAKEY with the pretranslator specified in field NEWXLA. AIN is the new pre-translator for the call. It was datafilled in the STDPRT table from step 1.		

41.10.2.3 Step 3: Verifying with TRAVER

The TRAVER utility can be used to verify that the call is translated correctly. The routing characteristics of the call must be specified in the TRAVER command.

> ***Note:*** The UNK followed by a carrier ID rather than CIC followed by a carrier ID should be specified because the call originates from an AIN AT and not an end office.

Figure 269 on page 979 provides a sample TRAVER output for the walk-through example. It shows the translation order.

Figure 269 Sample AR TRAVER output for IT trunk calls (EA carrier in an AT office)

```
>traver tr isupitic n cdn na 6136211000 tns na unk 777 ainres r02 ar b
Warning: Routing characteristics are present.
         Originator must be able to send in
         characteristics specified.
TABLE RTECHAR
 . TNSPUB (CDN NA (TNS NA)$) (CDN IN (TNS NA)$) ( BC 3_1KHZ (CDN NA) (TNS
NA)$) ( BC 3_1KHZ (CDN IN) (TNS NA)$)$
TABLE TRKGRP
ISUPITIC IT 63 ITTD NCRT IC NIL MIDL 613 E800 NSCR 613 000 N Y $
Warning: Routing characteristics in TRAVER command
line will override any bearer capability datafilled
in table TRKGRP.
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE PXLAMAP
 . Tuple not found. Default to old pretranslator name.
 . NOTE: ISDN Digit Conversion has been performed:
```

Figure 269 Sample AR TRAVER output for IT trunk calls (EA carrier in an AT office) (Continued)

```
 .       Resulting digits are: 7776136211000
TABLE STDPRTCT
E800 ( 1) ( 0) 3
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT CAN ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 777 777 T NP 3 OFRT 896 3 13 NONE
 .  . TABLE OFRTMAP
 .  .  . Tuple not found. Default to old index.
 .  . TABLE OFRT
 .  .  896 CND EA INTNL SK 3
 .  .      S D OGEAGTE
 .  .      N D ISUPOGGTE 0 N N
 .  .      CND ALWAYS SK 2
 .  .      N D OGEAGTE 15 D179 N
 .  .      N D ISUPOGGTE 0 D179 N
 .  . EXIT TABLE OFRT
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE TRIGGRP
OFCTRIGGRP_ALL INFOANAL
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 . LNP ( DG LNPDIG) ( ESCEA ) ( ESCOP ) ( ESCDN )$ NIL
Trigger AIN LNP is applicable to office.
AIN Info Analyzed TDP: trigger criteria not met.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 OGEAGTE                6136211000         ST
2 ISUPOGGTE              6136211000         ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 T120

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

41.11 Datafilling a local trunk originated call that receives an EA FGD carrier in an EAEO or AT office

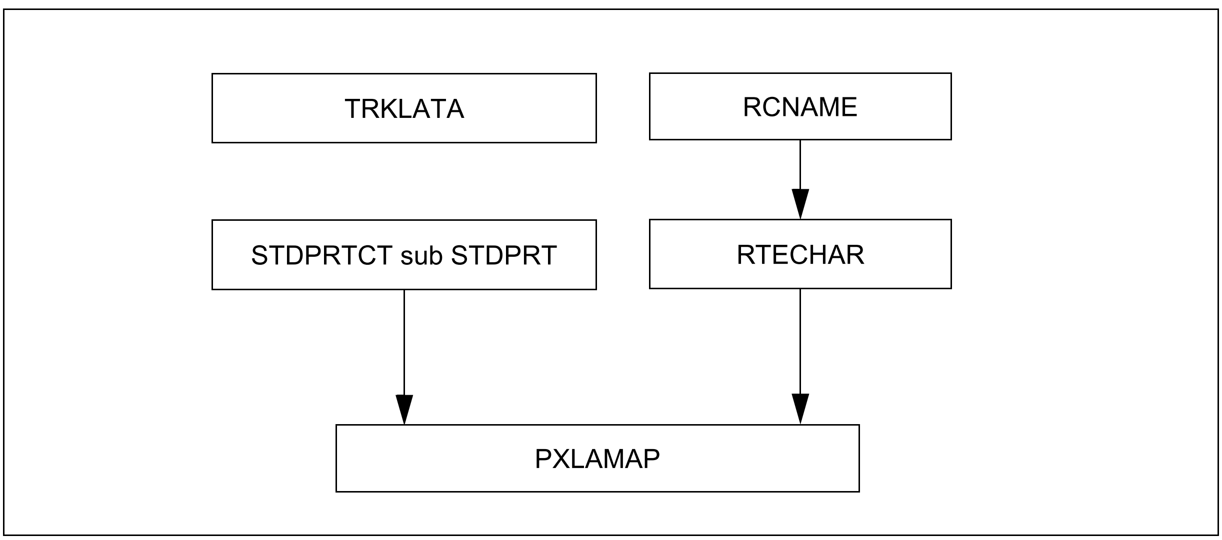
An EA FGD carrier, as specified in the AR message, does not contain the 0ZZ prefix. The SSP must enforce a pre-translator that translates the XXX digits based on the equal access tandem (ET) selector.

For a POTS local trunk originated call to be redirected to an EA FGD carrier, the ChargeNumber and ChargePartyStationType parameters have to be present in the AR response. Both parameters are used to generate the FGD signaling and the ChargeNumber is also used to index table TRKLATA to deduce the originating LATA.

41.11.1 Tables to be datafilled

Figure 270 illustrates the datafill hierarchy for POTS local trunk originated calls that receive an EA FGD carrier.

Figure 270 AR datafilling hierarchy



Assuming that tables RCNAME and RTECHAR have already been datafilled, only tables TRKLATA, STDPRTCT and PXLAMAP require datafill. Table STDPRT must be datafilled before table PXLAMAP.

41.11.2 Walk-through example

A call, incoming on local trunk (L613MFTI), triggers at an AIN Service Enablers TDP that is valid for receiving an AR response. The response is received from the off-board processor with an Equal Access Carrier 205, a national CDN 8196261506, a ChargePartyStationType and a ChargeNumber of 6136211088. The SSP routes the call to terminate on DN 6261506.

41.11.2.1 Step 1: Datafill table TRKLATA

Table TRKLATA must be datafilled for LATA screening before the call can be routed to the FGD carrier. Table 422 provides a sample of table TRKLATA datafill. When it is not datafilled, the call is still routed to the FGD carrier but without LATA screening. The triggering trunk and the ChargeNumber are used to index table TRL to deduce the LATA of the incoming call for use in LATA screening.

Table 422 Sample datafill in table TRKLATA

ORIGKEY	ORIGLATA	LEASTRK
L613MFTI6136211088	USEA1	N
L613MFTI000	USEA1	N
Where: L613MFTI6136211088 is the index consisting of the triggering trunk and ChargeNumber USEA1 is the originating LATA name N indicates that it is not a LEAS trunk		

41.11.2.2 Step 2: Datafill table STDPRTCT and its subtable STDPRT

A new pre-translator must be defined in table STDPRTCT before it can be referenced in table PXLAMAP.

For the walk-through example, first add the new pre-translator name NAPC to table STDPRTCT. Then go to its subtable and add the tuples shown in Table 423 on page 983.

Table 423 Sample datafill in subtable STDPRT

FROMDIGS	TODIGS	PRERTSEL	Other fields
205	205	ET	DD 3 UNT5 Y OFRT 129 3 20
Where: 205 are the digits used in translation ET is the equal access tandem selector UNT5 is the carrier name to route the call 129 is the index into the OFRT table			

41.11.2.3 Step 3: Datafilling table PXLAMAP

Table PXLAMAP is used to replace the predefined pre-translator with a new pre-translator for local trunk calls. Table 424 provides a sample of table PXLAMAP datafill. The new pre-translator defined in step 2 must be datafilled to replace the predefined pre-translator.

Table 424 Sample datafill in table PXLAMAP

XLAKEY	SEL	NEWXLA
NACAR P613	XLA	NAPC
Where: NACAR is the RCNAME associated with the call (national call with carrier) P613 is the predefined pre-translator for trunk L613MFTI XLA is needed for replacing the pre-translator specified in XLAKEY with the pre-translator specified in NEWXLA NAPC is the new pre-translator for the call		

41.11.2.4 Step 4: Verifying with TRAVER

The TRAVER utility can be used to verify that the call is translated correctly. The routing characteristics of the call must be specified in the TRAVER command.

> ***Note:*** The UNK followed by a carrier ID rather than CIC followed by a carrier ID should be specified because the call behaves like it is being originated from an AIN AT and not from an end office.

Figure 271 provides a sample TRAVER output for the walk-through example and indicates the translation order.

Figure 271 Sample AR TRAVER output for local trunk calls receiving an EA FGD carrier

```
>traver tr L613MFT n cdn na 6136212112 tns na unk 205 ain ainchg 6136211088
ainres r02 ar b
Warning: Routing characteristics are present.
         Originator must be able to send in
         characteristics specified.
TABLE RTECHAR
 . TNSPUB (CDN NA (TNS NA)$) (CDN IN (TNS NA)$) ( BC 3_1KHZ (CDN NA) (TNS
NA)$) ( BC 3_1KHZ (CDN IN) (TNS NA)$)$
TABLE TRKGRP
L613MFT IT 0 ITT NCRT IC IT MIDL 456 E800 NSCR 613 567 N N $
Warning: Routing characteristics in TRAVER command
line will override any bearer capability datafilled
in table TRKGRP.
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE PXLAMAP
 . TNSPUB E800 ( XLA NAPC)$
TABLE STDPRTCT
NAPC ( 1) ( 0) 3
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT CAN ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 205 205 ET DD 3 ITT Y OFRT 900 3 20
 .  . TABLE OFRTMAP
 .  .  . Tuple not found. Default to old index.
 .  . TABLE OFRT
 .  .  900 CND EA INTNL SK 3
 .  .      S D OGEAITT
 .  .      N D ISUPOGITT 0 N N
 .  .      CND ALWAYS SK 2
 .  .      N D OGEAITT 15 D179 N
 .  .      N D ISUPOGITT 0 D179 N
 .  . EXIT TABLE OFRT
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE TRKLATA
L613MFT 6136211088 LATA2 N
TABLE LATAXLA
LATA2 613621 INTER INTER STD
 .Not checked for AIN 0.1 TNS response processing
TABLE OCCINFO
```

Figure 271 Sample AR TRAVER output for local trunk calls receiving an EA FGD carrier (Contin-

```
ITT 0488 EAP Y Y Y Y Y N N N Y Y N LONG 14 FGRPC N N N N N N N N N N N N N
N Y
Using Equal Access (EA) route   OFRT  900 from Pretranslation
TABLE OFRTMAP
 . Tuple not found. Default to old index.
TABLE OFRT
 900 CND EA INTNL SK 3
     S D OGEAITT
     N D ISUPOGITT 0 N N
     CND ALWAYS SK 2
     N D OGEAITT 15 D179 N
     N D ISUPOGITT 0 D179 N
TABLE OFRTMAP
 . Tuple not found. Default to old index.
EXIT TABLE OFRT

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 OGEAITT                6136212112         ST
2 ISUPOGITT              6136212112         ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 T120

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

41.12 Post-query processing of a call originating from SC LEAS trunk

When a SuperCama (SC) trunk is datafilled to carry LEAS traffic in an AIN call, table TRKLATA and either table DNPIC or table DNLPIC must be datafilled. See document NTX710AA, *LATA Equal Access System, Digital Switching System DMS 100 Family General Feature Description* for more information on provisioning these tables.

41.12.1 Walk-through example 1

A call originated from a plain ordinary telephone service (POTS) line is routed via a SuperCama trunk. The DN of the originator is 6136218918.

In an access tandem (AT) office, the incoming call on an SC trunk triggers at an AIN Service Enablers TDP where an Analyze_Route response can be received. The response is received from the off-board processor with a DN 6706218919 and a charge number 6137221111. The SSP routes the call to terminate on DN 6218919.

41.12.1.1 Step 1: datafill table TRKLATA

For the walk-through example, datafill table TRKLATA as shown in Table 425.

Table 425 Sample datafill in table TRKLATA

ORIGKEY	ORIGLATA	LEASTRK
SC2WB 6136218918	LATA1	Y T DACD
SC2WB 6137221111	LATA1	Y T DACD
Where: SC2WB 6137221111 is the index into table TRKLATA, consisting of the trunk group CLLI name and the 10-digit number LATA1 is the originating LATA name Y T DACD indicates that the trunk is a LEAS trunk and default treatment is DACD		

41.12.1.2 Step 2: datafill table DNPIC

For the walk-through example, datafill table DNPIC as shown in Table 426.

Table 426 Sample datafill in table DNPIC

DNKEY	DNPIC	CHOICE	CTD
613 722 11 11	ITT	Y	N
613 621 89 18	ITT	Y	N
Where: 613 722 11 11 is a directory number. In this case it is the charge number in the response from the SCP ITT is the carrier name Y indicates subscriber is allowed to use 10XXX dialing N indicates no carriers are denied service to this subscriber			

41.12.1.3 Step 3: verify with TRAVER

The TRAVER utility can be used to verify that the call is translated correctly. Figure 272 illustrates SC LEAS post-query processing when the SCP returns an Analyze_Route message to a DN with a charge number.

Figure 272 TRAVER example 1 of post-query processing

```
>traver tr SCAM2W n cdn na 6706218919 ainres r02 ar b n st 07221111 st
Warning: Routing characteristics are present.
         Originator must be able to send in
         characteristics specified.
TABLE RTECHAR
```

Figure 272 TRAVER example 1 of post-query processing (Continued)

```
 . CDNPUB (CDN NA $) (CDN IN $) ( BC 3_1KHZ (CDN NA)$) ( BC 3_1KHZ (CDN
IN)$)$
TABLE TRKGRP
SCAM2W SC 0 TLD NCRT NIL N 613 TCA9 NONE DD ONHOOK ONHOOK 5 5 5 2W MIDL 0
BELL
    REGULAR CAMA NONE REV Y N $
Warning: Routing characteristics in TRAVER command
line will override any bearer capability datafilled
in table TRKGRP.
TABLE PXLAMAP
 . CDNPUB TCA9 ( XLA AIN1)$
TABLE STDPRTCT
AIN1 ( 1) ( 0) 2
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT CAN ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 670 670 N DD 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 314) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 670 671 HNPA 0
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 8919 D BLDN
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE TMTCNTL
INTRKGRP ( 0)
 . SUBTABLE TREAT
KEY NOT FOUND
DEFAULT OFFTREAT IS USED
TABLE TMTCNTL
OFFTREAT ( 115)
 . SUBTABLE TREAT
 . BLDN Y S T120
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
```

Figure 272 TRAVER example 1 of post-query processing (Continued)

```
TABLE BILLCODE
SCAM2W 722 L613 E613 613722 CAM0
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL DD N DD UNDT
TABLE CLSVSCRC
613 E613 DD 2 N NONE ( 1)
 . SUBTABLE CLSVSCR
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE TRIGGRP
OFCTRIGGRP_ALL INFOANAL
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 . LNP ( DG LNPDIG) ( ESCEA ) ( ESCOP ) ( ESCDN )$ NIL
Trigger AIN LNP is applicable to office.
AIN Info Analyzed TDP: trigger criteria not met.
DETERMINE WHEN THE ROUTE SHOULD BE REPLACED WITH A NEW EQUAL ACCESS ROUTE
TABLE TRKLATA
SCAM2W 6137221111 LATA1 Y T DACD
TABLE EASAC
TUPLE NOT FOUND
TABLE LATAXLA
LATA1 670 INTER INTER STD
TABLE DNPIC
613 722 11 11 ITT Y N
TABLE OCCINFO
ITT 0488 EAP Y Y Y Y Y N N N Y Y N LONG 14 FGRPC N N N N N N N N N N N N N
N Y
TABLE PXLAMAP
 . CDNPUB TCA9 ( XLA AIN1)$
TABLE STDPRTCT
AIN1 ( 1) ( 0) 2
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT CAN ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 10488 10488 EA DD 5 P PEA1 ITT Y OFRT 900 5 20 N
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
 .  . TABLE OFRTMAP
 .  .  . Tuple not found. Default to old index.
 .  . TABLE OFRT
```

Figure 272 TRAVER example 1 of post-query processing (Continued)

```
 .  .  900 CND EA INTNL SK 3
 .  .      S D OGEAITT
 .  .      N D ISUPOGITT 0 N N
 .  .      CND ALWAYS SK 2
 .  .      N D OGEAITT 15 D179 N
 .  .      N D ISUPOGITT 0 D179 N
 .  . EXIT TABLE OFRT
TABLE PXLAMAP
 .  . Tuple not found. Default to old pretranslator name.
 . TABLE STDPRTCT
 . PEA1 ( 1) ( 0) 2
 .  . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT CAN ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 .  . 1 1 EA DD 1 T NA ITT N
Using Equal Access (EA) route   OFRT  900 from Pretranslation
TABLE OFRTMAP
 . Tuple not found. Default to old index.
TABLE OFRT
 900 CND EA INTNL SK 3
     S D OGEAITT
     N D ISUPOGITT 0 N N
     CND ALWAYS SK 2
     N D OGEAITT 15 D179 N
     N D ISUPOGITT 0 D179 N
TABLE OFRTMAP
 . Tuple not found. Default to old index.
EXIT TABLE OFRT

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 OGEAITT                6706218919         ST
  BILL                   6137221111
2 ISUPOGITT              6706218919         ST
  BILL                   6137221111

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 T120

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

41.12.2 Walk-through example 2

A call originated from a plain ordinary telephone service (POTS) line is routed through a SuperCama trunk. The DN of the originator is 6136218918.

In an Access Tandem (AT) office, the incoming call on an SC trunk triggers at an AIN Service Enablers TDP where an Analyze_Route response can be received. The response is received from the off-board processor with an Equal Access carrier 777, a national CDN 6706218919, and a charge number 6137221111. The SSP routes the call via the carrier specified in the SCP response to terminate on DN 6218919.

41.12.2.1 Step 1: datafill table TRKLATA, table DNPIC

Datafill table TRKLATA as shown in Table 425 “Sample datafill in table TRKLATA” and Table 426 “Sample datafill in table DNPIC” on page 986.

41.12.2.2 Step 2: verify with TRAVER

The TRAVER utility can be used to verify that a call is translated correctly. Figure 273 illustrates post-query processing when the SCP returns an Analyze_Route message with a carrier and a change number.

Figure 273 TRAVER example 2 of post-query processing

```
>traver tr SCAM2W n cdn na 6706218919 tns na cic 777 ainres r02 ar b n st
07221111 st
Warning: Routing characteristics are present.
         Originator must be able to send in
         characteristics specified.
TABLE RTECHAR
 . TNSPUB (CDN NA (TNS NA)$) (CDN IN (TNS NA)$) ( BC 3_1KHZ (CDN NA) (TNS
NA)$) ( BC 3_1KHZ (CDN IN) (TNS NA)$)$
TABLE TRKGRP
SCAM2W SC 0 TLD NCRT NIL N 613 TCA9 NONE DD ONHOOK ONHOOK 5 5 5 2W MIDL 0
BELL
    REGULAR CAMA NONE REV Y N $
Warning: Routing characteristics in TRAVER command
line will override any bearer capability datafilled
in table TRKGRP.
TABLE PXLAMAP
 . TNSPUB TCA9 ( XLA AIN1)$
TABLE STDPRTCT
AIN1 ( 1) ( 0) 2
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT CAN ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 10777 10777 EA DD 5 P PEA2 GTE Y OFRT 896 5 20 N
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
 .  . TABLE OFRTMAP
 .  .  . Tuple not found. Default to old index.
 .  . TABLE OFRT
 .  .  896 CND EA INTNL SK 3
 .  .      S D OGEAGTE
```

Figure 273 TRAVER example 2 of post-query processing (Continued)

```
 .  .      N D ISUPOGGTE 0 N N
 .  .      CND ALWAYS SK 2
 .  .      N D OGEAGTE 15 D179 N
 .  .      N D ISUPOGGTE 0 D179 N
 .  . EXIT TABLE OFRT
TABLE PXLAMAP
 .  . Tuple not found. Default to old pretranslator name.
 . TABLE STDPRTCT
 . PEA2 ( 1) ( 0) 3
 .  . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT CAN ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 .  . 6 9 EA DD 0 T NA GTE N
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 314) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 670 671 HNPA 0
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 8919 D BLDN
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE TMTCNTL
INTRKGRP ( 0)
 . SUBTABLE TREAT
KEY NOT FOUND
DEFAULT OFFTREAT IS USED
TABLE TMTCNTL
OFFTREAT ( 115)
 . SUBTABLE TREAT
 . BLDN Y S T120
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE BILLCODE
SCAM2W 722 L613 E613 613722 CAM0
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
```

Figure 273 TRAVER example 2 of post-query processing (Continued)

```
 . SUBTABLE LCASCR
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL DD N DD UNDT
TABLE CLSVSCRC
613 E613 DD 2 N NONE ( 1)
 . SUBTABLE CLSVSCR
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
DETERMINE WHEN THE ROUTE SHOULD BE REPLACED WITH A NEW EQUAL ACCESS ROUTE
TABLE TRKLATA
SCAM2W 6137221111 LATA1 Y T DACD
TABLE EASAC
TUPLE NOT FOUND
TABLE OCCINFO
GTE 0777 EAP Y Y N Y Y N N N Y Y N LONG 0 FGRPD N N N N N N N N N N N N N N Y
TABLE LATAXLA
LATA1 670 INTER INTER STD
TABLE DNPIC
613 722 11 11 ITT Y N
Using Equal Access (EA) route   OFRT  896 from Pretranslation
TABLE OFRTMAP
 . Tuple not found. Default to old index.
TABLE OFRT
 896 CND EA INTNL SK 3
     S D OGEAGTE
     N D ISUPOGGTE 0 N N
     CND ALWAYS SK 2
     N D OGEAGTE 15 D179 N
     N D ISUPOGGTE 0 D179 N
TABLE OFRTMAP
 . Tuple not found. Default to old index.
EXIT TABLE OFRT

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 OGEAGTE                6706218919         ST
  BILL                   6137221111
2 ISUPOGGTE              6706218919         ST
  BILL                   6137221111

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 T120

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

41.13 Timeout Requested Event

The SCP can respond to a Timeout Requested event query with an Analyze_Route message.

When an Analyze_Route message is received in response to Timeout EDP-R, tear forward occurs toward the terminator. The tear-forwarded agent is released to the IDLE state and receives a dial tone. Tear Forward refers to the process of subtracting all real and virutal agents associated with NELS from the agent where tear forward happens, to the terminator. All events armed after the timeout event for which the response was received are closed with closecause of “EDPsCompleted”. Events armed prior to Timeout remain active.

The following describes functional behavior upon receipt of the Analyze_Route Message in typical scenarios.

A -> SDS1 -> AR + Timeout -> SDS2 -> AR + O_Disconnect -> B -> Timeout EDP-R -> AR -> C.

- A calls SDS1.
- The SDS1 trigger is hit and a query is sent to the SCP.
- The SCP returns an AR message with Called_Party_ID as SDS2 armed with Timeout event.
- The SDS2 trigger is hit and a query is sent to the SCP.
- The SCP returns an AR message with Called_Party_ID as B armed with O_Disconnect event.
- The call lands on B. B answers.
- The Timeout Timer is started.
- The Timer expires and a Timeout EDP-R is sent to the SCP.
- The SCP returns an AR message and the call lands on C.
  - — When the AR is received for Timeout, B is released to the IDLE state and receives a dialtone.
  - — O_Disconnect NEL is closed with closecause of “EDPsCompleted”.

A-> SDS1 -> AR + O_Disconnect -> SDS2 -> AR + Timeout -> B -> Timeout EDP-R -> AR -> C.

- A calls SDS1.
- The SDS1 trigger is hit and a query is sent to the SCP.
- The SCP returns an AR message with called_party_id as SDS2 armed with O_Disconnect event.

- The SDS2 trigger is hit and a query is sent to the SCP.
- The SCP returns an AR message with called_party_id as B armed with Timeout event.
- The call lands on B. B answers.
- The Timeout Timer is started.
- The Timer expires and a Timeout EDP-R is sent to the SCP.
- The SCP returns an AR message and the call lands on C.
  - When AR is received for Timeout, B is released to IDLE state and gets dialtone.
  - O_Disconnect NEL is active.

41.14 O_Disconnect_Called Event

The SCP can respond to a O_Disconnect_Called Requested event query with an Analyze_Route message.

When an Analyze_Route message is received in response to O_Disconnect_Called EDP-R, tear forward occurs toward the terminator. The tear-forwarded agent is released to the IDLE state and receives a dial tone. Tear Forward refers to the process of subtracting all real and virutal agents associated with NELS from the agent where tear forward happens, to the terminator. All events armed after the O_Disconnect_Called event for which the response was received are closed with closecause of "EDPsCompleted". Events armed prior to O_Disconnect_Called remain active.

42 Collect_Information message

The Collect_Information message is an AIN call control message that allows the SCP to resume call processing at the Collect_Information point-in-call. When the Collect_Information message is accompanied by a Request_Report_BCM_Event message, the message is received in either a Response package or a Conversation package. The Collect_Information message can be a reply to the following messages:

- Info_Analyzed
- Network_Busy
- O_Called_Party_Busy
- O_No_Answer
- OFCPFC

The Collect_Information message can contain any combination of the following parameters:

- AlternateDialingPlanInd
- AMA parameters
- Amp1
- Amp2
- CallingPartyID
- CollectedDigits
- DPConverter
- ServiceContext
- ServiceProviderID

Note: A vertical service code can be returned in parameter CollectedDigits.

The SSP routes the call by translating the dialing plan elements in parameter CollectedDigits against the dialing plan in force. The dialing plan in force is determined by the triggering agent (line, trunk, VFG, DISA) and the presence of a PODPATTR option assigned to a trigger. Parameter AlternateDialingPlanInd and its influence on establishing the dialing plan in force are not supported.

Collect_Information message processing includes the capability to process routing dial plan elements such as DNs and extension numbers as well as a subset of vertical service codes. The permitted set of supported vertical service code features in the dial plan elements are:

- CLASS Automatic Callback, for example, *66
- Calling Name/Number Delivery Blocking, for example, *67#6214321
- CLASS Automatic Recall
- AIN Specific/Public Feature Code Triggers

When the SCP specifies parameter CollectedDigits (that contains a complete dial plan element conforming to the dial plan of the triggering agent), but the dial plan element does not satisfy it, then the SSP collects digits until a translation result is determined. For example, when CollectedDigits contains the string *67, then the SSP prompts to collect the DN from the originator.

In addition to CollectedDigits processing, calling party data can be modified according to the SCP provided parameter, CallingPartyID.

To allow operating company personnel to validate Collect_Information processing, TRAVER includes an AINRES option that verifies the first dial plan element in the CollectedDigits specified on the command line.

42.1 DCR handicap removal

When a Collect_Info response occurs, the SSP removes the DCR handicap for calls redirected or retranslated by AIN.

42.2 Analyze_Route message

The AIN default carrier is not used when a Collect_Info message is returned from the SCP after the user has dialed a CAC or after the last Analyze_Route message.

42.3 Send_To_Resource Conversation

Under any one of the following conditions, answer indication is sent to the originating agent (when not previously sent), regardless of the presence or absence of the AnswerIndicator parameter:

- when the originating agent is a PTS trunk and a non-zero number of digits are to be collected
- when the originating agent is an ISUP trunk, the call is not end-to-end SS7, and a non-zero number of digits are to be collected

42.4 Response message parameters

With the exception of parameter CollectDigits, all AIN Service Enablers message parameters are the same as the equivalent AIN Essentials message parameters.

For limitations associated with parameters, see Section 20.3 “Messaging and parameter limitations” on page 671.

42.4.1 CollectedDigits parameter

Parameter CollectedDigits indicates the dial plan elements to use when processing resumes at the Collect_Information PIC.

The maximum number of digits that could consist of more than one dial plan element is 32. The minimum number of digits that the line originator could be prompted for is 0. When there are 0 digits specified but the originator is a trunk or has previously been forwarded, the DMS SSP provides Negative Acknowledgment (NACK) treatment.

The valid digits for CollectedDigits are ‘0-9', ‘*', and ‘#'. When CollectedDigits contains a ‘#', then CollectedDigits is treated as a delimiter between dial plan elements provided it is not the last digit in the string (otherwise, CollectedDigits is treated as the end of dialing). When CollectedDigits contains a ‘#' in the first position, then CollectedDigits is treated as an octothorpe translation. When the CollectedDigits contains a ‘*', then CollectedDigits is treated as the prefix to a vertical service code.

A dialing plan element is a pattern of dialed digits that, by itself, could be dialed by the user and result in either activation of a feature, translation/routing of a call, or the SSP providing a prompt for additional digits to the user. Examples of valid dialing plan elements follow:

- NXX-XXXX/NPA-NXX-XXXX
- 1+(NPA/500/700/800/888/8xx/900)-NXX-XXXX
- 0-
- 0+(category 1)
- 011+international number
- 00-
- 10XXX/101XXXX)/0ZZXXX/1NNXXX + (category 1~5)
- extension number 1~7 digits
- prefix/access code (for example, ‘9’ for outside line) (for line origination only, and user inputs rest of digits)

  Caution: This dial plan element is not supported on the DMS-100 switch.

- prefix/access code + (category 1~7)
- vertical service code (for example, *X, *XX, ..., *XXXXXXX)
- vertical service code, # prefix (for example, #X, #XX, ..., #XXXXXXX)

Separate dial plan elements by the octothorpe (#) digit; the separation helps the SSP resolve ambiguity in dial plan elements. For example, the SSP can be set up to have ambiguous vertical service codes such as *86 and *862. When there are multiple dial plan elements that are not separated by an octothorpe, then the ambiguity cannot be resolved. For example, *862581234 could be interpreted as *862 and address digits of 581234, where the SCP application intended it to be interpreted as *86 and address digits of 258-1234. When the SCP application includes the octothorpe as the delimiter (For example, *86#2581234), then these issues are resolved.

When parameter CollectedDigits contains just one dial plan element with the CAC (For example, 10XXX, 101XXX or 10XXX#), then CollectedDigits is treated as a partial dial plan element and the call is sent to PDIL treatment.

When parameter CollectedDigits is not present in the Collect_Information message, the DMS-100 SSP treats this condition as missing conditional parameter application error.

42.4.2 GenericAddressList parameter

The generic addresses stored by an SSP are not available during the Info_Collected detection point unless they were received in an ISUP IAM Generic Address Parameter for a originating ISUP call.

42.5 Collect_Information and processing

The SCP can respond to an Info_Analyzed query message by sending a Collect_Information message.

See Chapter 6: “Generic SSP procedures” on page 197 for the following types of information:

- DP-to-DTMF Conversion for Collect_Information
- flow diagram of Collect_Information message processing
- determining the dial plan in effect
- ISDN response translations
- equal access routing
- AIN triggering after Collect_Information
- query population for triggering after a Collect_Information response
- vertical service activation with Collect_Information

- activating automatic callback/recall with Collect_Information
- activating calling name/number delivery blocking with Collect_Information
- virtual facility groups (VFG)
- interactions
- error handling

42.5.1 Limitations

The following limitations apply to Collect_Information message processing:

- For POTS agents, only one dial plan element is supported in CollectedDigits.
- A limited subset of vertical service code features are supported as detailed in Section 6.6.2.7 “Vertical service activation with Collect_Information” on page 275.
- When the originator is an Attendant Console and Collect_Information is received, the call gets AIN Final treatment (AINF).
- When the Collect_Information message is received in reply to the O_No_Answer message on a Three Way Call after the conference has been bridged (all parties that hear ringing are in a conference together), the call gets feature activation negative acknowledgment (NACK) treatment.

42.6 Interactions between Collect_Information and switch-based features

All switch-based features that are activated during translations and routing that are not discussed in the following sections are denied and sent to final (FNAL) treatment. Switch-based features that activate after translations and routing are permitted.

In general, any switch-based name and/or number blocking feature for a call can be activated using the Collect_Information message. AIN presentation status always overrides switch-based display features, even when the switch-based feature is activated by a subscriber or through the Collect_Information message.

42.7 Outgoing call memory block

The Collect_Information message is capable of diverting a call to a new destination. When the Collect_Information message diverts a call with routing digits or a feature + routing digits, the OMS’ DN_UNRELIABLE field should be set to indicate that this call was diverted and the OMS cannot be used by subsequent call features (For example, ACB).

The Collect_Information message interaction is designed in the same manner as other AIN diverting messages (For example, Disconnect message). When parameter CollectedDigits contains routing digits (speed call activation code, translatable digits, CNDB code, or user dialed routing digits), the AIN ACB blocking utility is invoked to set the OMS' DN_UNRELIABLE field when the translation results are analyzed by the Collect_Information message. The AIN ACB blocking utility is not invoked when the Collect_Information message activates the ACB feature because ACB activation is permitted with the Collect_Information message. Outgoing call memory block is not marked as unusable when an AutomaticRecall code is received because the routing digits used for AutomaticRecall are from the last incoming call and AutomaticRecall updates the OMS when it routes the call.

42.8 AIN Send_Notification and Termination_Notification

When a Send_Notification component accompanies a Collect_Information message and the CollectedDigits parameter does not satisfy the dialing plan in force, the SSP sends a Termination_Notification message containing a TerminationIndicator with the ExceptionIndicator field set to 'yes'.

When a Send_Notification component accompanies a Collect_Information message and the CollectedDigits parameter satisfies the dialing plan in force but the call results in a treatment as opposed to a connection (For example, confirmation of activation of ACB), the SSP sends a Termination_Notification message containing a TerminationIndicator with the ExceptionIndicator field set to 'yes'.

When a Send_Notification component accompanies a Collect_Information message and the CollectedDigits parameter results in a confirmation tone or announcement (For example, confirmation of activation of ACB on a busy line), the SSP sends a Termination_Notification message containing a TerminationIndicator with the ExceptionIndicator field set to 'yes'.

42.9 Software optionality control

The Service Enablers Release 4 Collect Info SOC option AIN00244 controls the AIN Service Enablers Collect_Information message processing functionality and must be in the ON state, if that functionality is desired.

42.9.1 AIN00244 Warning Message

The following warning message applies to the Collect_Information message:

```
SERVICE AFFECTING: This transition will disable AIN
Service Enablers Release 4 Collect_Information
message processing functionality for all current and
future AIN subscribers.
```

42.10 Billing

When a Collect_Info message contains an AMAslpID parameter, then AIN AMA generates the appropriate AIN AMA record for each trigger type (Structure Code 0220). When the message contains a vertical service, the appropriate switch based AMA for that service is generated as well (applies to NA010, CLASS record SC 1030, CTC 330).The presence of an AMAslpID is not necessary for the vertical service to generate a record. For more information about billing, see Chapter 6: “Billing” on page 227.

42.11 Operational measurements

Operational measurements related to the Collect_information message include register IO Collect_Information (IOCINFO and register Interactive Subscribed Collect_Information (ISCINFO).

42.11.1 Register IOCINFO

Register IO Collect_Information (IOCINFO) counts the Collect_Information messages received in response to an office-based trigger encounter. The register increments when the SSP correctly decodes a Collect_Info message and when AIN SOC AIN00244 is ON. For more information about this OM, see Chapter 91.18: “Register IOCINFO”.

42.11.2 Register ISCINFO

Register Interactive Subscribed Collect_Information (ISCINFO) counts the Collect_Information messages received in response to a line-subscribed trigger encounter. For more information about this OM, see Chapter 92.9: “Register ISCINFO”.

42.12 TRAVER

The AINRES portion of TRAVER processes the Collect_Information response message.

TRAVER supports the same set of translations related message parameters of the Collect_Information message as the DMS SSP call processing portion (That is, CollectedDigits.)

Collect_Information response processing in TRAVER is similar to a regular TRAVER without the AINRES option. Parameter CollectedDigits can be treated the same way as the terminating DN parameter of a regular TRAVER invocation. One major difference is that parameter CollectedDigits can contain multiple dialing plan elements such as DNs and feature codes. The multiple dialing plan elements are usually separated by either a ‘*’ or ‘#’ digit.

See Section 22 , “Translation verification tool for AIN,” on page 483, for the following TRAVER examples:

- Collect_Information with ACB
- Collect_Information with CNDB
- Collect_Information with ISDN originator using Bearer Capability (BC)
- Off-Hook-Delay trigger after Collect_Information response
- Equal Access routing

For more information about Collect_Information and TRAVER, see Section 22 , “Translation verification tool for AIN,” on page 483.

42.12.1 TRAVER support for AIN response translations

The SSP removes the DCR handicap when a Collect_Info message is received in response to a trigger or EDP-R.

43 Continue response

43.1 General

The Continue (CONT) response is an off-board processor-to-SSP message that can be received at the Information Analyzed (INFOANAL) trigger detection point (TDP). It instructs the call to continue processing at the INFOANAL TDP and trigger again if more triggers are found. If no more triggers are found, the SSP attempts to route the call.

The CONT response is also supported for Info_Collected triggers if SOC AIN00210 is set to ON.

If there is not enough information to perform normal routing, the call is sent to treatment. For example, after a Customized Dialing Plan (CDP) trigger with the off-board processor feature access code (FAC) (off-board processor feature activation request), the off-board processor sends back a CONT response. There is no information on how the call should be routed. In such a case, the call is sent to AIN FINAL (AINF) treatment.

43.2 Datafilling requirements

No extra AIN datafill is required.

43.3 Continue examples

The following three examples are selected to show CONT response processing at the SSP. Although no extra AIN datafill is required for CONT response, you can study TRAVER outputs in order to predict how call processing continues to process the call.

43.3.1 Example 1: Continue at SDS

From a Meridian digital centrex (MDC) DN 7225028, dial 92132850000. The call triggers at SDS (10) and queries the database. (See sample output in TRAVER 1 on page 3.)

An AIN CONT response is received from the off-board processor. The call continues to trigger at SDS (6) and queries the database again.

If an AIN CONT response is received from the off-board processor again, the call continues to trigger at SDS (3) and queries the database again.

If an AIN CONT response is received from the off-board processor again, since no more triggers are found, the SSP attempts to route the call to the terminating DN.

For instructions on how to datafill the SSP to trigger at the SDS, N11, or CDP trigger, see the corresponding trigger chapters in this document.

43.3.2 Example 2: Continue at N11

From a POTS line (6214777), dial 411. The call triggers at N11. (See sample output in TRAVER 2 on page 5.)

An AIN CONT response is received at the SSP. Since no more triggers are found, the call attempts to terminate.

43.3.3 Example 3: Continue at CDP

From an MDC line (7223214), dial extension 26992 to trigger at CDP. (See sample output in TRAVER 3 on page 6.)

An AIN CONT response is received at the SSP. Since no more triggers are found, the call attempts to terminate.

43.3.4 Verifying examples with TRAVER

The AINRES TRAVER option permits the display of routing information when a CONT response is received. When this option is used, the Origination Attempt (ORIGATT) and Information Collected (INFOCOL) TDPs are not displayed in the TRAVER, but the Information Analyzed and subsequent TDPs are displayed. The purpose of the CONT response is to instruct the SSP to continue processing at the next trigger in the Information Analyzed TDP. Since this is only a simulated call and it is not known which trigger was last processed, TRAVER displays all triggers subscribed by the originator at the Information Analyzed TDP and continues simulation of the call. The Network Busy (NETBUSY) and Termination Attempt (TERMATT) TDPs can be encountered.

TRAVER 1 on page 3, TRAVER 2 on page 5 and TRAVER 3 on page 6 provide sample TRAVER outputs. Each sample output represents a Continue response to an SDS, N11 and CDP query, respectively.

> ***Note:*** When a CONT response is received at the SSP in response to an SDS query, the SSP matches the next most specific digits. In Example 1, the call triggers at SDS (10), that is, 2132850000, and when the SSP receives a CONT response, the next most specific digits matched are 213285.

Figure 1 TRAVER output with CONT response to SDS query (example 1)

```
>traver l 7224070 92132550000 ainres r02 cont b
TABLE KSETLINE
HOST 00 0 00 21 1 DN Y 7224070 COMKODAK 0 0 613 $ MBS
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE KSETFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 9 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 9 NET N Y 1 Y POTS Y N DOD N 80 613_P621_0 L613_NILLA_4 NONE $
TABLE DIGCOL
POTS specified: POTS digit collection
TABLE LINEATTR
80 IBN NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_NILLA_4 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $
TABLE RATEAREA
L613_NILLA_4 L613 NIL NILLATA $
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 213 250 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 314) ( 1) ( 84) ( 0) 3 $
```

Figure 1 TRAVER output with CONT response to SDS query (example 1) (Continued)

```
 . SUBTABLE HNPACODE
 . 213 216 HNPA 0
 . 255 255 LRTE 800
 . SUBTABLE RTEREF
 .  800 S D AIN_DUMMY_TRK
 . EXIT TABLE RTEREF
EXIT TABLE HNPACONT
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
TABLE PFXTREAT
OPTL NP N DD UNDT
TABLE CLSVSCRC
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
TABLE TRIGGRP
OFCTRIGGRP_ALL INFOANAL
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 . Continue option: All matched digit criteria will be displayed
 .  . TABLE TRIGDIG
 .  . PODPDIG PODP 213255 PODP EVENT TCAP R01 SS7 AINJAZZ DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 2132550000 2132550000 SSNONLY (AINTEST) $
 .  . TABLE PODPATTR
 .  . TUPLE NOT FOUND
 . LNP ( DG LNPDIG) ( ESCEA ) ( ESCOP ) ( ESCDN )$ NIL
Trigger AIN LNP is applicable to office.
AIN Info Analyzed TDP: trigger criteria not met.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 AIN_DUMMY_TRK         2132550000         ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
```

Figure 1 TRAVER output with CONT response to SDS query (example 1) (Continued)

```
2 LKOUT

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

Figure 2 TRAVER output with CONT response to N11 query (example 2)

```
>traver l 6136214777 411 ainres r02 cont b
TABLE LINEATTR
0 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 411 411 T OA 0 OFRT 44 3 3 NONE
 .  . TABLE OFRT
 .  .   44 N D DAC 3 N Y
 .  . EXIT TABLE OFRT
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE LATAXLA
TUPLE NOT FOUND
ASSUMED TO BE DEFAULT INTRALATA, INTRASTATE, STD
TABLE TRIGGRP
OFCTRIGGRP_ALL INFOANAL
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
 . Continue option: All matched digit criteria will be displayed
 .  . TABLE TRIGDIG
 .  . N11DIG N11 411 N11 EVENT TCAP R01 SS7 AINJAZZ DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
```

Figure 2 TRAVER output with CONT response to N11 query (example 2) (Continued)

```
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 4110000000 4110000000 SSNONLY (AINTEST) $
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 . LNP ( DG LNPDIG) ( ESCEA ) ( ESCOP ) ( ESCDN )$ NIL
Trigger AIN LNP is applicable to office.
AIN Info Analyzed TDP: trigger criteria not met.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 DAC                  NN                 ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

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

Figure 3 TRAVER output with CONT response to CDP query (example 3)

```
>traver l 7224070 26992 ainres r02 cont b
TABLE KSETLINE
HOST 00 0 00 21 1 DN Y 7224070 COMKODAK 0 0 613 $ MBS
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE KSETFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 2 RPT
TABLE IBNXLA: XLANAME PXDK
TUPLE NOT FOUND
Default is to go to next XLA name.
TABLE IBNXLA: XLANAME CXDK
CXDK 26 EXTN Y N 613 722 5 $ $
TABLE TOFCNAME
613 722 $
```

Figure 3 TRAVER output with CONT response to CDP query (example 3) (Continued)

```
TABLE DNINV
613 722 6992 L HOST 00 1 06 07
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
 . Continue option: All matched digit criteria will be displayed
 .  . TABLE TRIGDIG
 .  . CDPDIG CDPCODE 26992 CDPCODE TRANS EVENT TCAP R01 SS7 AINJAZZ DFLT $
 .  .  . TABLE C7GTTYPE
 .  .  . AINJAZZ ANSI7 3 $
 .  .  . TABLE KSETFEAT
 .  .  . TUPLE NOT FOUND
 .  .  . TABLE C7GTT
 .  .  . AINJAZZ 6137224070 6137224070 SSNONLY (AINTEST) $
TABLE TRIGGRP
OFCTRIGGRP_ALL INFOANAL
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 . LNP ( DG LNPDIG) ( ESCEA ) ( ESCOP ) ( ESCDN )$ NIL
Trigger AIN LNP is applicable to office.
AIN Info Analyzed TDP: trigger criteria not met.
AIN Term Attempt TDP: no subscribed trigger.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 LINE                  6137226992         ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

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

43.4 Timeout Requested event

The SCP can respond to a Timeout Requested event query by sending a Continue message.

When a Continue message is received in response to Timeout EDP-R, the call will be allowed to continue. All the events armed in that call-segment will be active.

The following describes functional behavior upon receipt of the Continue Message for typical scenarios.

A-> SDS1 -> AR + Timeout -> B -> Timeout EDP-R -> Continue.

- A calls SDS1.
- The SDS1 trigger is hit and a query is sent to the SCP.
- The SCP returns an AR message with called_party_id as B armed with Timeout event.
- The call lands on B. B answers.
- The Timeout Timer started.
- The Timer expires and a Timeout EDP-R is sent to the SCP.
- The SCP returns a Continue message and the call continues. All NELs armed in this call leg remain active.

44 Create_Call

AIN Service Enablers supports Create_Call.

44.1 General

Create_Call allows the SCP to request that the SSP create a connection between a calling party and a called party. The Create_Call message is an SCP event message. The SSP has no knowledge of this request.

The Create_Call message comes in a query package from the SCP, and can have one or more of the following messages:

- request report BCM event (RRBCME)

  Note: See Chapter 20: “Limitations” on page 671.

- send notification
- automatic code gapping (ACG)

Parameters CallingPartyID and CalledPartyID must be present in the Create_Call message. The originator identified by the CallingPartyID must reside on the SSP that receives the Create_Call message. The terminator of the call can be within the same SSP or can be outside of the SSP.

The switch uses AIN response translations to set up the call between the calling party and the called parties.

Create_Call allows the SCP to create a call based on SSP service logic. The calling party can hit triggers starting at trigger detection point (TDP) 4 and up. When the Create_Call message sets up the call, the originator ignores TDPs 1 and 3.

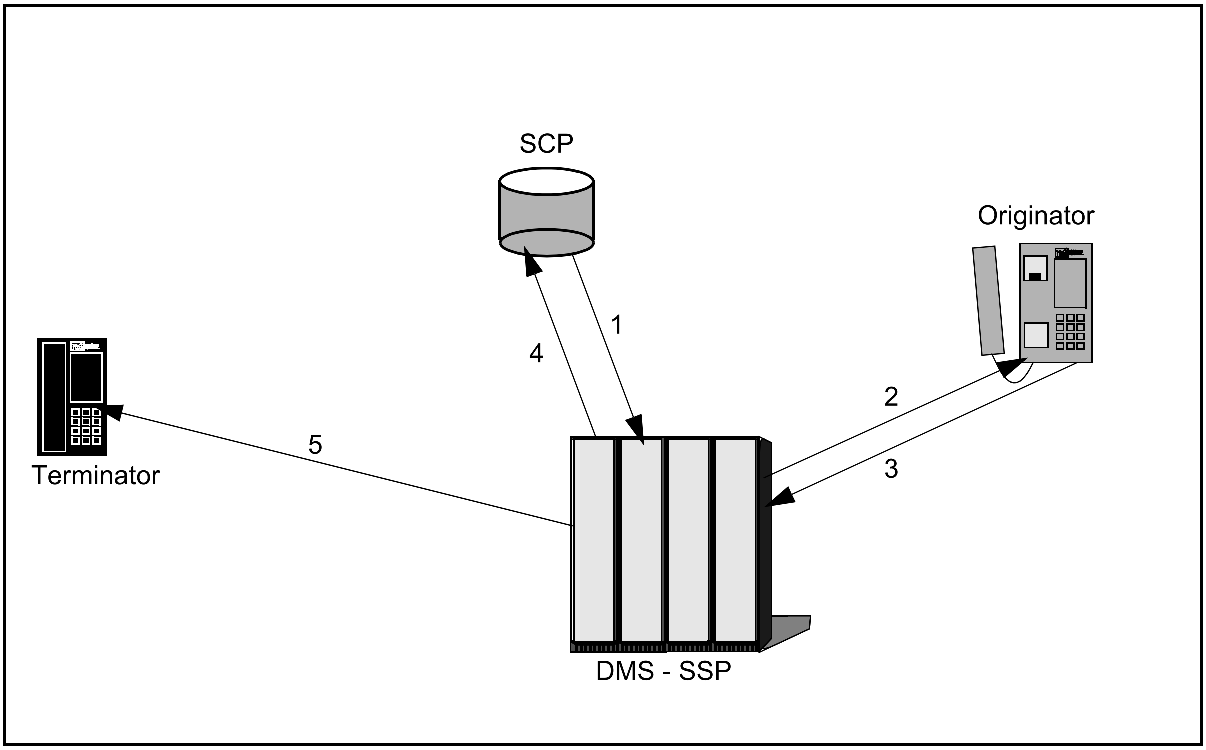
A Create_Call scenario follows:

1. The SCP sends the SSP a Create_Call message with no NEL component.
2. The SSP provides notification (ringing) to the originator.
3. The originator goes off-hook.

4. The SSP sends a Close message to the SCP.
5. The SSP routes the call to the terminator using AIN response translations. The terminator can or can not reside on the same SSP.

Figure 277 provides a call flow for AIN Create_Call.

Figure 277 AIN Create_Call



44.1.1 Create_Call Initiation

The SSP can send a Create_Call TCAP message in a query package at any time. A TCAP transaction is established between the SCP and the SSP. The Create_Call message is not correlated with any other message. The message is parsed to ensure that it does not contain any protocol errors.

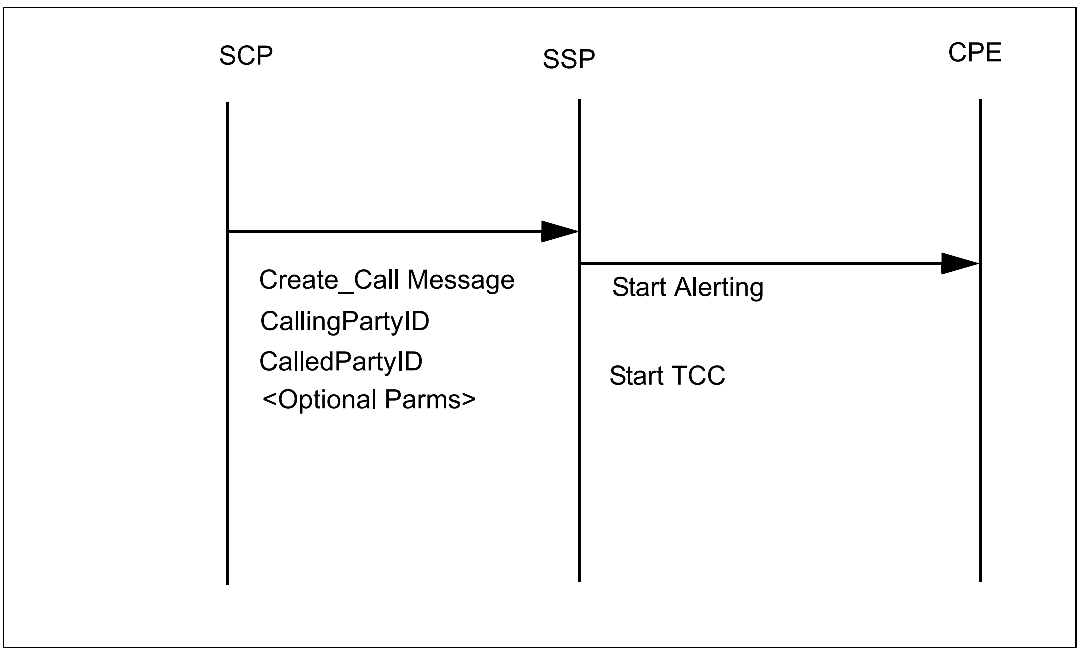
When Create_Call is requested for an analog calling party that is resident on the switch, the SSP determines if the line is idle. If the line is idle, the switch applies power ringing to the equipment of the calling party and the Create_Call timer (TCC) starts. This timer is set to either the default value of 24 seconds (four ring cycles) or to the value specified by the Notification Duration optional parameter (when present). Parameter Notification Duration can be set from 1 to 99 seconds.

When parameter Controlling Leg Treatment is present, the parameter determines the alerting pattern that alerts the user. Values of ‘on-hook TR-30 with wake-up indication' and 'on-hook TR-30 without wake-up indication' are not supported. When these parameters are received, the parameters are discarded and default alerting pattern 0 applies to the call.

During the notification of a user of a Create_Call request, all AIN terminating triggers are ignored.

Figure 278 provides the call flow for analog Create_Call User Notification.

Figure 278 Analog Create_Call User Notification

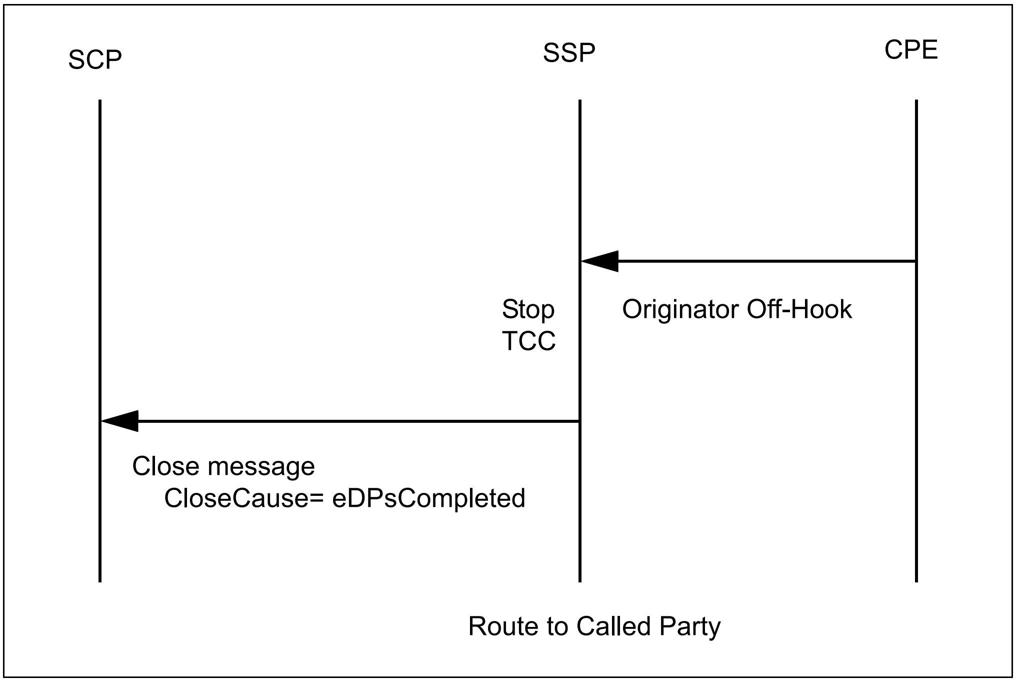


44.1.1.1 Create_Call acceptance

A Create_Call request is accepted by an analog user going off-hook. A Create_Call request is rejected by the user not responding to the notification before the TCC timer expires. For more information, see Section 44.1.2 , "TCC Timeout," on page 1020. When the switch detects an off-hook, the switch sends a Close message to the SCP with a close cause of eDPsCompleted. The TCC timer stops and the call routes to the CalledPartyID.

Figure 279 provides analog Off-Hook message flow.

Figure 279 Analog Off-Hook Message Flow



44.1.1.2 Routing to Called Party ID

When the call is accepted, the call routes to the Called Party ID through call processing from the Analyze_Information PIC of the Originating BCM. No triggers prior to Analyze_Information PIC are processed in this call.

When the call clears from the calling party, normal user abandon procedures apply.

When there is no carrier selection information included with the Create_Call request, the switch uses the carrier presubscription information associated with the CallingPartyID to route the call to the CalledPartyID. When the CalledPartyID results in an interLATA call, the PIC of the originator is used as the carrier. When the call results in an intraLATA toll call, the LPIC of the originator is used. When carrier selection information is provided in the Create_Call message, routing is attempted through the primary carrier. When the primary carrier cannot be used, the secondary and tertiary carriers are tried in order, when the carriers have been provided.

When the call fails to select a carrier or is blocked by a feature, normal rejection treatment applies.

Create_Call uses response translations for call setup.

To determine the carrier used to carry the call when no carrier is provided in the query, see Table 427.

Table 427 Result carrier determination rules

Nature of the response (INTER, INTRA, LOCAL)	User presubscription status (Y/N) (Note 2)		Result carriers
	LPIC	PIC	
LOCAL	X	X	None
INTER	X	X	Office default carrier
INTER	X	Y	User’s PIC
INTRA	Y	X	User’s LPIC
INTRA	N	X	RBOC
INTRA	X	X	RBOC default carrier
INTER: INTERLATA calls INTRA: INTRALATA calls Y: Option is subscribed N: Option is not subscribed X: Value is ignored			

There are many carrier and CDN combinations that can be received in a Create_Call query. When routing on a carrier, a CDN, or a carrier with a CDN, the following routing characteristics can be used to route a call:

- Nature of number in the Called PartyID (CDN) values can be either national (national), international (IN), subscriber (L) and unknown (UNK). The default is UNK.
- operator service access (OSA) values can be PUBP (public principle, send call to operating company operator), or PUBA (public alternate, send call to an interexchange carrier operator), or NIL (the default).

- Transit network selector (TNS) values can be either national (NA) or NIL (the default).
- When the DMS-100 switch has package NTX767 or NTX768, consider the bearer capability (BC).

  Table 864 summarizes different carrier and CDN combinations and their corresponding routing characteristics that can be received in a Create_Call query.

Table 428 Carrier and Called Party Number combination, and the corresponding routing characteristics

Nature of number in CalledPartyID	Digits (CDN)	Carrier ID	CDN	OSA	TNS
Subscriber	7D	XXXX	L	NIL	NA
National number	10D	XXXX	NA	NIL	NA
International Number	7-15D	XXXX	IN	NIL	NA
No address present, operator requested	0D	XXXX	UNK	PUBA	NA
National number, operator requested	10D	XXXX	NA	PUBA	NA
International number, operator requested	7-15D	XXXX	IN	PUBA	NA
Subscriber	7D	Not Present	L	NIL	NIL
National number	10D	Not Present	NA	NIL	NIL
International number	7-15D	Not Present	IN	NIL	NIL
No address present, operator requested	0D	Not Present	UNK	PUBP	NIL
National number, operator requested	10D	Not Present	NA	PUBP	NIL
International number, operator requested	7-15D	Not Present	IN	PUBP	NIL
Carrier cut-through	Not present	XXXX	UNK	NIL	NA
When one of the carrier parameters contains a LEC (identified by 110), the DMS translates as though the carrier were not present. The last row of the table is only allowed in an end office.					

Table 429 summarizes the digits used in translation or various carrier and CalledPartyNumber combinations. Both simplified and non-simplified values are provided. When the call is in the POTS environment, set fields FROMDIGS and TODIGS in subtable STDPRT of table STDPRTCT according to the digits in the translation.

Table 429 Digits used in translation

Nature of number in CalledPartyID	Digits (CDN)	Carrier ID	Digits used in translations for an end office (Unsimplified)	Digits used in translations for an end office (Simplified)
National number	10D	XXXX	101XXXX+(10)D	Please see the following section.
International number	7-15D	XXXX	101XXXX+(7-15)D	101XXXX+011+(7-15)D
No address present, operator requested	0D	XXXX	10XXXX0	101XXXX0
National number, operator requested	10D	XXXX	101XXXX0+(10)D	101XXXX+0+(10)D
International number, operator requested	7-15D	XXXX	101XXXX0+(7-15)D	101XXXX+01+(7-15)D
National number	10D	Not Present	(10)D	Please see the following section.
International number	7-15D	Not Present	(7-15)D	011+(7-15)D
No address present, operator requested	0D	Not Present	0	0
National number, operator requested	10D	Not Present	0+(10D)	0+(10D)
International number, operator requested	7-15D	Not Present	0+(7-15)D	01+(7-15)D
Carrier cut-through	Not present	XXXX	101XXXX	
International number, operator requested	7-15D	Not Present	IN	PUBP
Carrier cut-through	Not present	XXXX	UNK	NIL
A national number is supported only when it is a 10-digit number, an N11 number, or a 950-XXXX number.				

44.1.1.2.1 Simplified Translations for National Number

For National Direct Dial (where CDN=NA & TNS=UNK & OSA=UNK) and National Carrier Direct Dial (where CDN=NA & TNS=NA & OSA=UNK) SCP responses, the conversion of the 10D number into a format for dialing is based on existing translation datafill in tables LCASCRCN and HNPACONT. The resulting digits are in 7D, 1+7D, 10D, or 1+10D format, being consistent with the dialing plan of the originator.

> ***Note:*** When a carrier ID is returned in the response, the carrier access digits 101XXXX are prefixed before the converted digits.

The National Number conversion process is based on the following logic:

1. Table HNPACONT datafill determines when to convert the 10D number to 7D or 10D. The conversion produces 7D (by removing the NPA), when one of the following conditions are met:
    a. Indexing HNPACODE with the 10D called number results in VCT HNPI.
    b. The NPA of the originator equals the NPA of the 10D called number, and subtable HNPACODE contains no entry for the NPA of the called number.
2. Table LCASCRCN datafill determines when a call is a local or a toll call:
    a. When the NPA and NXX of the called number are found in table LCASCRCN, consider the call a local call.
    b. When the NPA is not found in table LCASCRCN, but the NPA of the originator equals the NPA of the called number, a check occurs to see when the called NXX was datafilled in subtable LCASCR. When the datafill is found, the call is a local call. This check handles the case where a 7D local dialing plan exists within an NPA, and the NPA is not datafilled in table LCASCRCN.
    c. When 2a. and 2b. do not apply, consider the call a toll call.
3. Using PFXFOR10 of table LCASCRCN and the local/toll result from step 2, the called number is modified according to Table 430. Table 430 summarizes the digits used in translation after conversion when the calling number is a public line, and for call types where (CDN=NA) or (CDN=NA & TNS=NA).

Table 430 Translation digits after conversion

Digits after step 1	Local or Toll	PFX FOR10	Originator’s NPA = Called NPA	Result when no Carrier ID is present	Result when XXXX Carrier ID is present
7D	Local	Y	Not Applicable	7D	101XXXX+(7)D

Table 430 Translation digits after conversion

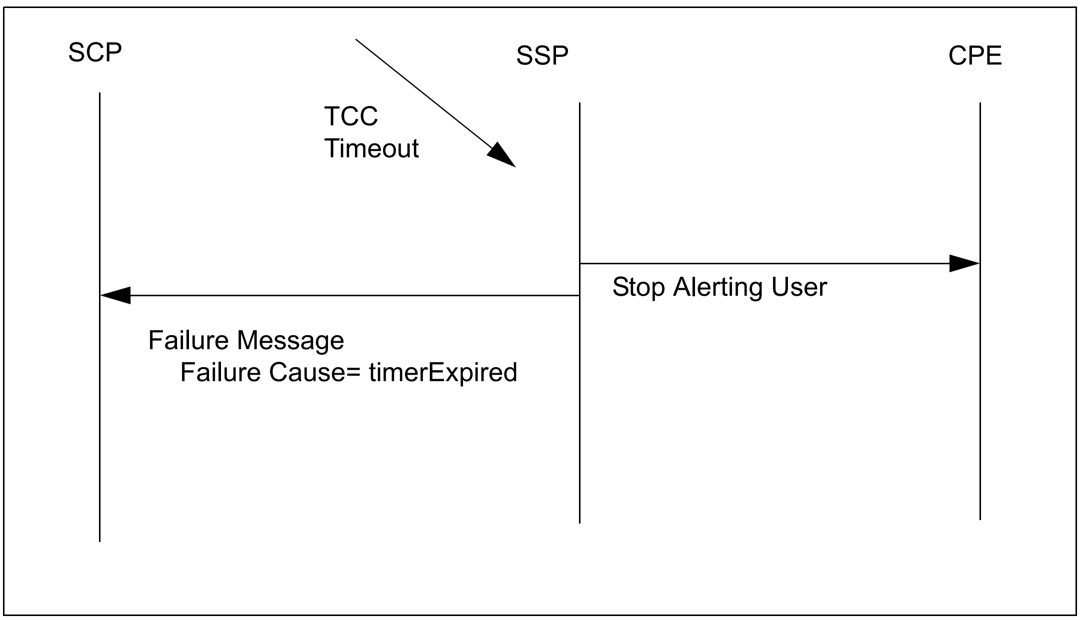
Digits after step 1	Local or Toll	PFX FOR10	Originator's NPA = Called NPA	Result when no Carrier ID is present	Result when XXXX Carrier ID is present
7D	Local	N	Not Applicable	7D	101XXXX+(7)D
7D	Toll	Y	Not Applicable	7D	101XXXX+(7)D
7D	Toll	N	Not Applicable	1+7D	101XXXX+1+(7)D
10D	Local	Y	N	1+10D	101XXXX+1+(10)D
10D	Local	Y	Y	7D	101XXXX+7D
10D	Local	N	Not Applicable	10D	101XXXX+(10)D
10D	Toll	Y	Not Applicable	1+10D	101XXXX+1+(10)D
10D	Toll	N	Not Applicable	1+10D	101XXXX+1+(10)D

For more information, see Chapter 2: "AIN response translations for public agents" on page 47 and Chapter 3: "AIN simplified response translations for public agents" on page 101.

44.1.2 TCC Timeout

When the Create_Call timer times out, the Create_Call request is no longer offered. The switch stops alerting the user and sends the SCP a Failure message with a failure cause of timerExpired. Any subsequent off-hooks (analog) are treated as requests to originate a call, rather than to accept a Create_Call. Table 280 provides a call flow for TCC Timeout.

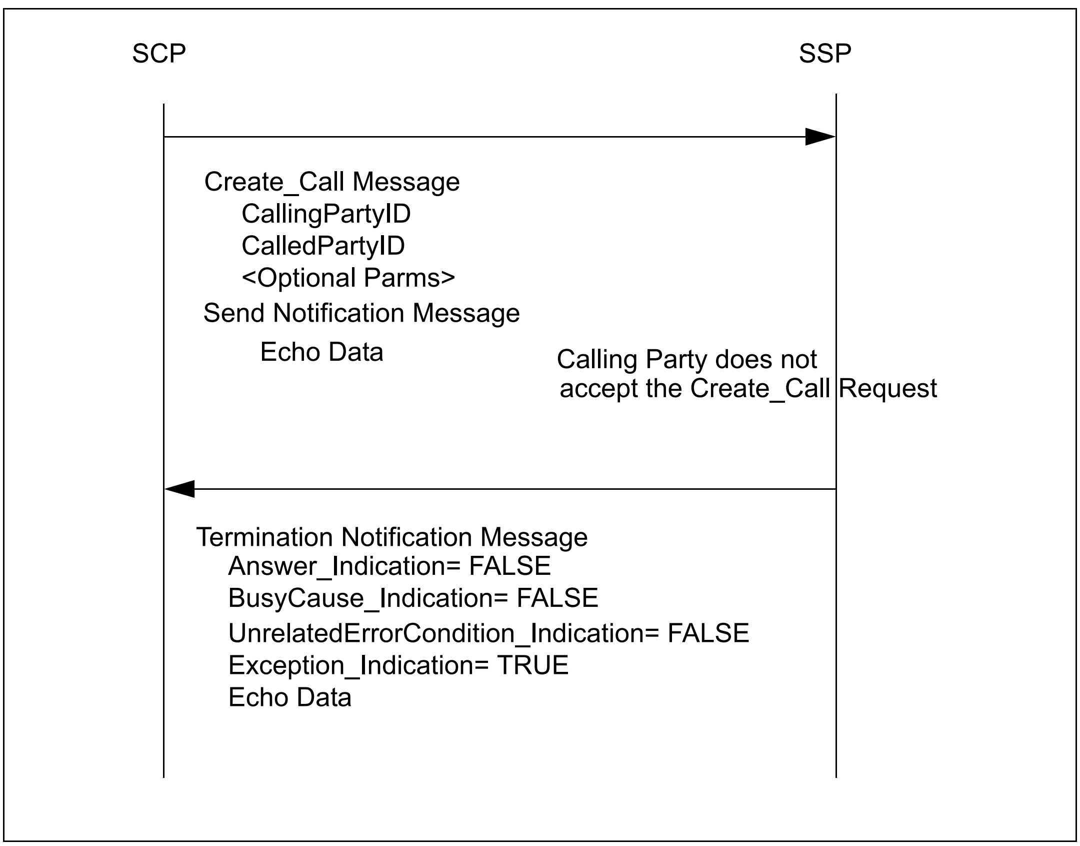
Figure 280 Call flow for TCC timeout



44.1.3 Send Notification/Termination Notification Handling

When a Send Notification message is included with a Create_Call message, the SSP returns a Termination Notification when the call returns to the Null PIC. When the Calling Party does not accept the Create_Call request for any reason (for example, because of an invalid Create_Call message, an invalid Calling Party ID, a Calling Party ID busy, or a TCC timeout), the SSP returns a Termination Notification message with the Exception_Indication flag set to 'TRUE'. Table 342 provides the call flow for Send Notification/Termination Notification handling.

Figure 281 Call flow for Send Notification/Termination Notification handling



When the Create_Call request is accepted by the Calling Party, the Send Notification is processed the same way as a Send Notification received with a response to a query. That is, the SSP returns a Termination_Notification message when the call clears. This processing applies when the call is forwarded, transferred, or redirected. Based on the final disposition of the call, only one of Answer_Indication, BusyCause_Indication, or

Exception_Indication is set to ‘TRUE’.To determine how to set various TN parameters, see Table 429 on page 1017.

Table 431 Conditions for Setting Termination Notification Parameters

TN Parameter	Value
Busy Cause	Only included when BusyCause_Indication = TRUE contains the following contents: - Cause Value: indicates reason for busy call - Cause Class: categorizes the cause values - General Location indicates the Call Type - Coding Standard: populated as CCITT
Connect Time	Same value as Elapsed Time in AMA record
Echo Data	EchoData received in Send_Notification
TerminationIndicator:	
Answer_Indication	TRUE when Called Party answers the call.
BusyCause_Indication	TRUE when - Routing to Called Party results in Network Busy - Routing to Called Party results in Busy Reported - Routing to Called Party results in Busy Event
UnrelatedErrorCondition_Indication	TRUE when: - Condition results in AIN Final Treatment being applied - Serial Triggering Count Exceeded
Exception_Indication	TRUE when - Calling Party does not accept the Create_Call request - Calling Party accepts the call, but the call is not answered and an Exit Event related to Incomplete Calls other than Network Busy, Busy Reported or Busy is detected

44.1.3.1 Population of BusyCause Parameter

Busy cause values associated with events Busy, Busy Report, and Network Busy are categorized as follows:

Table 432 Busy Cause Values

Cause Value	Description
Destination Out of Order	Termination station does not exist or cannot be terminated due to a hardware problem
User Busy	Termination station is not in idle state.
No Route To Destination	Network is unable to route a call forward with the requested destination.
No Circuit Available	All circuits tried are busy.
Caller Abandon (does not apply to Create_Call)	User abandoned call after a query was sent, but before the SSP received a response and before the T1 timer expired.

Population of the Busy Cause parameter:

- INTERSWITCH calls:
  - When the SSP receives an SS7 Release message with parameter ISUP Cause Indicators, parameter BusyCause is populated with the contents of parameter ISUP Cause Indicators.

  For ISUP calls that do not generate SS7 release messages because treatment procedure selector at the terminating office for the call is LOCAL, no Busy Cause is populated at the originating office. Instead, an Exception Indication is set for the busy call. At the terminating office, a Busy Cause Indication is still received.

  For ISUP calls that generate SS7 release messages because treatment procedure selector at the terminating office for the call is NOLOCAL, the BusyCause indication is populated at the originating office for a busy call. Because a busy treatment does not apply at the terminating office, no BusyCause is populated. Instead, an Exception indication is set at the terminating office for the busy calls.

  For calls that are successfully routed over PRI and PTS trunks but cannot complete at the terminating office, the BusyCause parameter is not populated at the originating office. An exception indication is set at the originating office for a busy call. At the terminating office, the BusyCause indication is supported.

- INTRAswitch call
  - — Parameter BusyCause is populated according to the procedures for the parameter ISUP Cause Indicators.

"DMS treatment to Cause Value Mapping" on page 1777 illustrates the mapping of DMS treatment to BusyCause values for INTRAswitch busy calls.

Table 433 DMS treatment to cause value mapping

DMS Treatment	Termination Notification Busy Cause value	Termination Notification Busy Cause class
TROUBLE_INTERCEPT (TRBL)	Destination Out of Service	Normal Event
BUSY_LINE (BUSY)	User Busy	Normal Event
VACANT_CODE (VACT)	No Route to Destination	Normal Event
NO_CRKT (NCRT) GENERALIZED_NO_CIRCUIT (GNCT)	No Circuit Available	Resource Unavailable
DMS Treatment	Termination Notification Busy Cause Value	Termination Notification Busy Cause Class

The General Location field in parameter BusyCause is defined in Table 434.

Table 434 General location in parameter Busy Cause

Originating and terminating agents	Termination notification general location
Line to Line Call	User
Line to (Public, Private) Trunk Call	(Public, Private) network serving the local user
(Public, Private) Trunk to Line Call	User[a]
Trunk to (Public, Private) Trunk Call	(Public, Private) network serving local User[b]

a.Not applicable to Create_Call
b.Not applicable to Create_Call

When the SSP receives multiple Send Notification requests for the same call and each request is received in a separate TCAP transaction, then the SSP sends a Termination Notification message for each request.

44.1.4 Create_Call with ACG

There is no change in the ACG functionality when it accompanies Create_Call. ACG behaves the same way as an ACG message that accompanies any call-related AIN message.

44.1.5 Error Scenarios

Any failure to be reported to the SCP resulting from the Create_Call message received in a query package is reported in a response package. A Return Error component with an error code of Failure_Report is generated.

When the SSP receives a Create_Call query containing valid but unsupported parameters, then the SSP discards the unsupported parameters and continues processing the request.

When a Create_Call message contains a Protocol error, the error will be reported to the SCP (when appropriate). No treatment is applied to any user, because there is no user at the time.

The following table lists protocol errors supported by AIN. The details of detection and causes of protocol errors are considered specific to the TCAP protocol and beyond the scope of this document. See Section 4 of GR-1299-CORE for more information on these errors. A list of protocol errors and their effect is shown in Table 435.

Table 435 Protocol errors

Protocol error	Error type
Badly Structured Component Portion	fatal
Badly Structured Transaction Portion	fatal
Incorrect Component Portion	fatal
Incorrect Parameter	nonfatal
Incorrect Transaction Portion	fatal
Missing Mandatory Parameter	fatal (Note 1)
Underivable Transaction ID	fatal
When a missing mandatory parameter fatal protocol error is detected by the SSP, the SSP maps it to incorrect parameter and reports the error as a fatal protocol incorrect parameter error. Shading indicates areas that are not supported.	

Table 435 Protocol errors

Protocol error	Error type
Unrecognized Component Type	fatal
Unrecognized Correlation ID	fatal
Unrecognized Operation Code	fatal
Unrecognized Package Type	fatal
Unrecognized Transaction ID	fatal
When a missing mandatory parameter fatal protocol error is detected by the SSP, the SSP maps it to incorrect parameter and reports the error as a fatal protocol incorrect parameter error. Shading indicates areas that are not supported.	

When a fatal protocol error is detected anywhere in a received message, the SSP discards the entire received message. Note that AIN final treatment is not applied in a Fatal Protocol Error in a Create_Call message, because there is no user to which the treatment can be applied. The SSP reports the error to the off-board processor because it was received in a query package. The error is reported to the off-board processor in an abort package when the fatal protocol error is detected: in the transaction portion of the message, in a response package, or in the component portion of the message.

When a nonfatal protocol (incorrect parameter) error is detected by the SSP, the SSP discards the incorrect optional parameter and continues normal call processing.

When a Create_Call message contains a Calling Party ID that is not served by the SSP or is of an agent type that does not support Create_Call, then the message will be reported to the SCP through a Failure message with FailureCause set to ‘inappropriateUserInterface’. No treatment is applied to any user, because there is no user at the time. For more details on agent support see Chapter 4: “Agent support” on page 127.

When a Create_Call message contains no Called Party ID, the message will be reported to the SCP as a fatal protocol error - Missing Mandatory Parameter through a response Package with a Reject component. No treatment is applied to any user, because there is no user at the time.

When a Create_Call message is determined to be missing a required Optional parameter, this information is reported to the SCP as a fatal application error with application error set to ‘MissingConditionalParameter’. No treatment is applied to any user, because there is no user at the time.

Cases of fatal missing condition parameters follow:

- The CalledPartyID contains 0 digits and the Nature of number field is set to ‘no address present, operator requested’ and there is no Carrier parameter.
- The CalledPartyID contains 0 digits and the Nature of number field is set to “no address present, Carrier Cut Through” and there is no Carrier parameter.
- The CalledPartyID contains 0 digits and the Nature of number field is set to “no address present, Carrier Cut Through” and the Carrier parameter does not indicate XXXX (that is, 110 instead).

44.1.5.1 Create_Call received in conversation or response package

When a Create_Call message is received in a conversation or response package in response to a previous query, then the SSP treats the message as a fatal application error. A fatal application error message with cause value ‘UnexpectedMessage’ is returned to the SCP and the call from which the transaction was launched is sent to AIN final treatment.When the TCAP transaction is open, then the error is reported in a response package with a Return Error component. When the TCAP transaction is closed, the fatal application error is reported in a unidirectional package with an Invoke (Last) component and a Report Error operation code.

When the UserIdentificiationID is an unsupported value (That is, any value other than DN.) then the failure message is also returned.

44.1.5.2 Create_Call message with incompatible interface characteristics or user identification information

When a Create_Call message contains characteristics incompatible with the interface (That is, a bearer capability that is not supported by the Calling Party ID, or the SCP provided Bearer Capability is of value other than ‘speech’ or ‘3.1 kHz audio’), then a failure message with ‘failureCause= inappropriateUserInterface’ is sent to the SCP. No treatment is applied to any user, because there is no user at the time. In the case of bearer capability values not supported by AIN (f7KHz, multiRate and packetModeData), an application error message with application error string encoded to ‘erronoeusDataValue’ is returned. This is consistent with the usual AIN behaviour for AIN-unsupported values of bearer capability.

When the UserIdentification information is set to ‘DN’ and the CallingPartyID is associated with an ISDN EKTS, this handling also applies.

44.1.5.3 Create_Call Calling Party Busy

When the line is determined to be busy, the Create_Call request is rejected by sending the SCP a failure message with 'FailureCause= CallingInterfaceBusy'. An analog line is considered busy when:

- The end user is off-hook, either involved in a call or originating a call.
- The end user is alerted to a terminating call.
- The end User is rung-back after disconnecting with a call on hold, or by an operator, attendant, or 911 system.
- The end user is notified of an earlier Create_Call request.
- An active feature causes the line to be considered busy.

44.1.5.4 Create_Call with Network Resource Unavailable

When a Create_Call cannot proceed due to some network resource being unavailable, then the SCP is notified through a failure message with Failure Cause set to 'Resource Unavailable'.

44.1.5.5 Create_Call when SOC AIN00271 is IDLE

When a Create_Call message is received when SOC option AIN0027 is IDLE, an application error with Error Cause set to 'Unexpected Communication' is sent to the SCP. No treatment is applied to any user, because there is no user at the time.

44.1.5.6 Create_Call rate too high

When too many Create_Call messages are received and the SSP cannot process all of them, the SCP receives a failure message with Failure Cause set to 'rate Too High'. No treatment is applied to any user, because there is no user at the time.

44.1.5.7 Create_Call during ONP/restarts

Only stable calls established using Create_Call survive an ONP and restarts (warm, cold, and reload) . Any Create_Call messages that arrive during the blackout period of the ONP are lost. This is consistent with the behavior of other AIN messages.

45 Authorize_Termination response

45.1 General

Authorize_Termination (AUTHTERM) can be received at the service switching point (SSP) from the off-board processor only in response to the TERMATT trigger detection point (TDP).

The AUTHTERM message instructs the SSP to continue processing at the AUTHTERM point in call. When the DN/CT encountered as an AIN virtual DN, feature not allowed (FNAL) treatment is given since there is no terminating access or service switching point (SSP) feature associated with the specified DN.

45.2 Datafilling requirements

There is no extra AIN datafilling required for the Authorize_Termination response.

45.3 Verifying with TRAVER

The AINRES TRAVER AT (Authorize Termination) option permits the display of routing and billing information after encountering the termination attempt (TERMATT) TDP. When the AT option is used, the origination attempt (ORIGATT), information collected (INFOCOL) and information analyzed (INFOANAL) TDPs are not displayed in a TRAVER output, but the TERMATT TDP is displayed as illustrated in TRAVER 282.

Figure 282 Example TRAVER output with the AINRES AT option

```
>traver l 6136212111 6136218111 ainres r02 at b
TABLE LINEATTR
0 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_P621_0 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_P621_0 FR01 613 P621 TSPS N $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
```

Figure 282 Example TRAVER output with the AINRES AT option (Continued)

```
TABLE LENFEAT
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE STDPRTCT
P621 ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT CAN 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 HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 314) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 613 613 HNPA 0
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 8111 L HOST 01 0 00 03
TABLE DNFEAT
613 621 8111
    (AINDN TIID (20 TAT_AUTO ON) $)$
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 613 613
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 621 623
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
TABLE DNFEAT
613 621 8111
```

Figure 282 Example TRAVER output with the AINRES AT option (Continued)

```
    (AINDN TIID (20 TAT_AUTO ON) $)$
Checking AIN TERMATT Trigger Items as TERMATT is compatible with current
call
 .  . TABLE TRIGITM
 .  . 20 TAT_AUTO TERMATT $ ULK EVENT R02 SS7 AINROCK $
 .  .  . TABLE C7GTTYPE
 .  .  . AINROCK ANSI7 5 $
 .  .  . TABLE C7GTT
 .  .  . AINROCK 6136218111 6136218111 PCSSN (AINTATM_RTESET2 AIN01 0) $
SSN
AIN Term Attempt TDP: AINRES authorize termination option selected

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 LINE                  6136218111         ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

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

46 Forward_Call response

46.1 General

A Forward_Call (FC) response message can be received only at the Termination_Attempt (TERMATT) trigger detection point (TDP). It is similar to the Analyze_Route (AR) response. It instructs the SSP to terminate the call on a specified address. Addresses are presented in the same format as in the AR message.

Using the new address information, the terminator originates a new leg in the call. If a routing list is specified, processing of the new leg begins at the Selecting Route point in call. If a routing list is not specified, processing begins at the Analyze Information (INFOANAL) point in call. Processing at these points in call works in a similar way as in AR. If the Information Analyzed trigger detection point (TDP) is encountered, triggering takes place against the terminating DN; that is, against the DN to which the Termination Attempt (TERMATT) trigger was assigned.

46.2 Parameter CarrierUsage

The CalledPartyID determines the call type of a call. CarrierUsage uses the call type to select a carrier for routing. There is no impact on the existing functionality of CalledPartyID.

Parameter Carrier contains the primary carrier that can be selected for routing. The carrier in parameter Carrier need not be used if no trunk group parameters are present. The carrier selected depends on the value of CarrierUsage and the call type (determined by the digits in the CalledPartyID).

For the Forward Call routing algorithm using CarrierUsage see Chapter 41.3.1: “CarrierUsage algorithm for SSP routing” on page 958.

CarrierUsage impacts both the AlternateCarrier and the SecondAlternateCarrier because the carrier selected depends on the value of CarrierUsage and the call type (determined by the digits in the CalledPartyID).

46.3 Datafilling requirements

Datafilling requirements for the SSP to handle the FC response are quite similar to the AR requirements, except that the terminating agent rather than the originating agent is used when routing the FC response.

See Chapter 41: “Analyze_Route response” on page 957. Remember to use the terminating agent.

The TRAVER utility is modified to verify the translation for receiving an AINRES FC response. The option is FC. See TRAVER 283 on page 1034 for a sample TRAVER output.

Triggering at Termination Attempt TDP from an IBN line terminating DN 6137226962, the SCP sends back a Forward Call response with a CalledPartyID (National Number 6136221243, the number returned is on the same SSP).

TRAVER 283 provides a sample TRAVER output using the AINRES FC option.

Figure 283 Sample TRAVER output using the AINRES FC option

```
>traver l 6137226962 n cdn na 6136211243 ainres r02 fc b
Warning: Routing characteristics are present.
         Originator must be able to send in
         characteristics specified.
TABLE RTECHAR
 . CDNPUB (CDN NA $) (CDN IN $) ( BC 3_1KHZ (CDN NA)$) ( BC 3_1KHZ (CDN
IN)$)$
TABLE KSETLINE
HOST 00 1 06 10 2 DN Y 7226962 COMKODAK 0 0 613 (3WC) (MSB) $ MBS
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE KSETFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
COMKODAK AIN AIN CUSTTRIGGRP_CDP
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE NCOS
COMKODAK 0 0 0 KDK0 ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
COMKODAK PXDK CXDK FTCOMM 0 KDK
TABLE DIGCOL
KDK 6 COL L 1
TABLE XLAMAP
 . CDNPUB PXDK ( XLA AINPUB)$
```

Figure 283 Sample TRAVER output using the AINRES FC option (Continued)

```
TABLE IBNXLA: XLANAME AINPUB
TUPLE NOT FOUND
DEFAULT FROM TABLE XLANAME:
AINPUB
    (NET N N 0 N NDGT N N GEN ( LATTR 862 613_AIN1_862 L613_LATA1_0) $ $)$ 9
TABLE DIGCOL
NDGT specified: digits collected individually
TABLE LINEATTR
862 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 613_AIN1_862 L613_LATA1_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
613_AIN1_862 FR01 613 AIN1 TOPS N $
TABLE RATEAREA
L613_LATA1_0 L613 NIL LATA1 $
TABLE PXLAMAP
 . Tuple not found. Default to old pretranslator name.
 . NOTE: ISDN Digit Conversion has been performed:
 .       Resulting digits are: 6136211243
TABLE STDPRTCT
AIN1 ( 1) ( 0) 2
 . 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 HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
613 Y 999 1 ( 314) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 613 613 HNPA 0
 . 621 621 DN 613 621
TABLE TOFCNAME
613 621 $
TABLE DNINV
613 621 1243 L HOST 00 1 10 17
TABLE DNFEAT
TUPLE NOT FOUND
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
LNP Info: Called DN is resident.
LNP Info: Called DN has native NPANXX.
LNP Info: HNPA results are used.
```

Figure 283 Sample TRAVER output using the AINRES FC option (Continued)

```
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 613 613
TABLE LCASCRCN
613 L613 ( 16) OPTL N N
 . SUBTABLE LCASCR
 . 621 623
TABLE PFXTREAT
OPTL NP Y NP UNDT
TABLE CLSVSCRC
TABLE TRIGGRP
CUSTTRIGGRP_CDP INFOANAL
 . CDPCODE ( DG CDPDIG)$ NIL
Trigger AIN CDPCODE is applicable to customer group.
TABLE TRIGGRP
OFCTRIGGRP_ALL INFOANAL
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 . LNP ( DG LNPDIG) ( ESCEA ) ( ESCOP ) ( ESCDN )$ NIL
Trigger AIN LNP is applicable to office.
AIN Info Analyzed TDP: trigger criteria not met.
AIN Term Attempt TDP: no subscribed trigger.

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 LINE                  6136211243         ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

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

46.4 Timeout Requested event

When a Forward_Call message is received in response to Timeout EDP-R, tear forward occurs from where the Timeout event is armed, and the call is routed to Specified Called_Party_ID in the FC message. Terminator is released to the IDLE state and receives a dial tone. Tear forward refers to the process of subtracting all real and virutal agents associated with NELS from the agent where tear forward happens, to the terminator. Events armed after the timeout event, for which the response was received, are closed with closecause of "edpscompleted". Events armed prior to Timeout remain active.

The following describes functional behavior upon receipt of the Forward_Call Message in typical scenarios.

A-> SDS1 -> AR + Timeout -> B -> Timeout EDP-R -> FC -> C.

- A calls SDS1.
- The SDS1 trigger is hit and a query is sent to the SCP.
- The SCP returns an AR message with called_party_id as B armed with O_Disconnect event.
- The call lands on B. B answers.
- The Timeout Timer started.
- The Timer expires and a Timeout EDP-R is sent to the SCP.
- The SCP returns an FC message and the call lands on C.
  - When FC is received for Timeout, B is released to the IDLE state and receives a dialtone.

47 Disconnect response

47.1 General

For AIN Service Enablers, the off-board processor can return a Disconnect (DISC) message in response to any AIN Service Enablers trigger detection point (TDP). When the SSP receives a DISC response from the off-board processor, the SSP routes the call to AIN disconnect call treatment and clears the call as normal.

47.2 O_Disconnect and O_Disconnect Called events

The SCP responds to an O_Disconnect Requested Event query via a Disconnect message.

When a Disconnect message is received for a O_Disconnect_Called or O_Disconnect event, the Originator/Controlling leg is given an SSP provisional AIND treatment as defined in Table TMTCNTL.

When the current Call Configuration is a stable two-party call (CC2) and a valid Disconnect message is received in response to an O_Disconnect message, the SSP processes the message. The resulting Call Configuration is CC0. In all other Call Configurations (CC) involving more than one call leg (CC4 to CC11), when the Disconnect message is received in response to an O_Disconnect message, only the AIN Controller is disconnected and normal switch feature processing is allowed to control the disposition of the call. The functionality is similar to Continue response processing.

> ***Note:*** This functionality will be changed to support Merge_Call, Reconnect, Disconnect_Leg, Move_Leg, Originate_Call, Split_Leg and Acknowledge messages when AIN provides 3WC, Call Transfer etc. using the Call Party Handling (CPH).

47.3 Timeout Requested event

The SCP can respond to a Timeout Requested Event query via a Disconnect message.

When a Disconnect message is received, the controller is given an AIND treatment which is SSP provisionable in Table TRMTCNTL and the call leg is taken down. All events in the call leg are closed and close messages are sent to the SCP with a CloseCause "CallTerminated". The switch-based call processing handles the disposition of the other agents in the call.

The following describes functional behavior upon receipt of the Disconnect Message in typical scenarios after Timeout is detected.

- Timeout armed in OCM.
  - — A receives AIND treatment for 6 seconds, followed by a dial tone. B hears deadair for 6 seconds, followed by DISC treatment. After AIND treatment is complete, agent A continues as if it is offhook and all applicable features are encountered.
  - — If A abandons during AIND treatment, B receives DISC treatment.
  - — If B abandons during deadair, A receives DISC treatment.
- Timeout armed in OCM with a trunk as the terminator.
  - — A receives AIND treatment for 6 seconds, followed by a dial tone. B hears deadair, followed by DISC treatment.
  - — If A goes on-hook during AIND treatment, B hears dead-air, followed by DISC treatment.
  - — If B goes on-hook during deadair, A receives DISC treatment.
- Timeout armed in OCM with a trunk as the originator.
  - — A receives AIND treatment for 6 seconds, followed by DISC treatment. B hears dead air, followed by a dialtone
  - — If A abandons during AIND treatment, B receives a dialtone.
  - — If B abandons during deadair, A receives DISC treatment.
- Timeout armed in OCM with a trunk originator and a trunk terminator.
  - — A receives AIND treatment for 6 seconds, followed by DISC treatment. B hears deadair, followed by DISC treatment.
  - — If A abandons during AIND treatment, B hears deadair, followed by DISC treatment.
  - — If B abandons during deadair, A receives DISC treatment.

- Timeout armed in OCM and detected in a passive leg.
  - B receives DISC treatment. A is talking to C.
- Timeout armed in OCM and detected in an active leg.
  - A receives AIND treatment for 6 seconds, after which A is connected to B. C hears dead-air for 6 seconds, followed by DISC treatment.
- Timeout armed in TCM and detected in an active leg.
  - B receives AIND treatment for 6 seconds, after which B is connected to A. C hears deadair, followed by DISC treatment.
- Timeout armed in TCM and a trunk originator.
  - B receives AIND for 6 seconds and is connected to A. C hears dead-air, followed by DISC treatment.
  - If B abandons during the AIND treatment, B receives a ringback and is connected to A. C receives a dialtone.
  - If C abandons during deadair, B is connected to A.

47.4 Datafilling requirements

Thus, the datafill requirement for the SSP to handle the DISC message is to datafill the AIN disconnect treatment. For ISDN user part (ISUP) users, the treatment should be mapped to Normal Clearing in the Treatment Map table (TMTMAP) and Treatment Control table (TMTCNTL).

47.4.1 Datafilling table TMTCNTL

In table TMTCNTL, we can define tones, announcements, and states that are returned to the originator of a call. In theory, each type of the originator can have its own AIN disconnect announcement defined. The AIND associated with the OFFTREAT is applied if the originator does not have its own AIND defined.

47.4.1.1 Example

In table TMTCNTL, to add the AIND announcement to the four different types of originator (OFFTREAT for office, LNT for lines, ITTRKGRP and TITRKGRP for trunks) do the following:

In table TMTCNTL, position on tuple OFFTREAT and then go to subtable TREAT and add the tuple shown in Table 436. Repeat the same step for tuples LNT, ITRKGRP, and TITRKGRP respectively.

Table 436 Sample datafill in subtable TREAT of table TMTCNTL

Treatment	Log	FSTRSEL	CLLI
AIND	Y	S	TI20

47.5 Datafilling table TMTMAP

The table TMTMAP should be datafilled to allow the AIND treatments to be applied to ISUP.

In key field TMTMPKEY, specify AIND as the cause associated with the treatment as shown in Table 437.

Table 437 Table TMTMAP

TMTMPKEY	TMTMPVAR
Q764 AIND ALLBC	ISUP NOLOCAL NORMCLR LOCNET N

48 Send_To_Resource response

48.1 General

The Send_To_Resource response is an off-board processor-to-SSP message that can be received at any trigger detection point (TDP). It directs the SSP to connect the calling party to a resource (such as an announcement or a tone) either on the SSP itself or on an intelligent peripheral (IP).

When the Send_To_Resource message contains parameter DestinationAddress the SSP connects the calling party to the IP whose address is given in the DestinationAddress.

When parameter DestinationAddress is not included in the Send_To_Resource message then the SSP connects the calling party to an internal announcement or tone.

The Send_To_Resource message can also include a request to collect digits from the calling party. The digits are collected after the announcement or tone is played (or interrupted by the user) and reported back to the off-board processor.

The parameter of particular interest is parameter StrParameterBlock. Parameter StrParameterBlock is mandatory in the Send_to_Resource message and contains, among other things, the system announcement identifier. The system announcement identifier indicates the announcement the SSP should play.

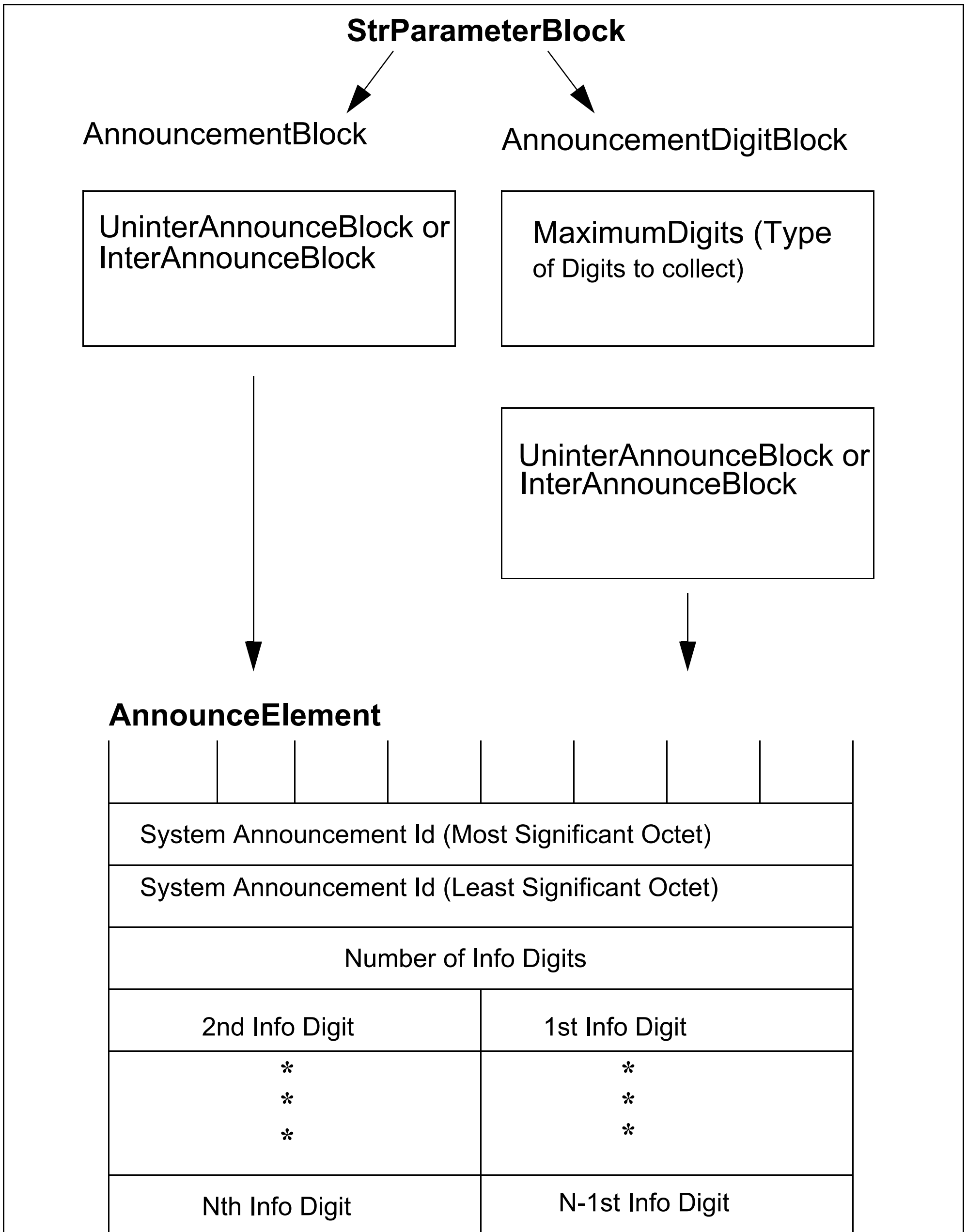
The following list summarizes the information provided within parameter StrParameterBlock:

- Whether subsequent digits should be collected (upon completion or termination of the announcement) and if so, the type of digits that should be collected (fixed, variable, normal).
- Any digits that are to be pronounced with the announcement. Note: There is a limit on the number of digits that can be sent. The maximum digits that can be sent is 32, but the maximum that can be pronounced is 24. Digits beyond the 24th digit up to and including the 32nd digit are ignored.

- Whether the calling party may interrupt the announcement while the announcement is playing.
- The announcement on the SSP which should be played to the calling party.

Figure 284 illustrates the different components of parameter StrParmaterBlock.

Figure 284 Definition of StrParameterBlock



For AIN, the most significant octet of the System Announcement Identifier is always zero.

The system announcement identifier received from the Off-board processor in the StrParameterBlock can correspond to a value from 1-65535.

48.1.1 Mapping the external system announcement identifier to an internal DMS customized announcement

Table AINANNS provides the capability to map up to 65535 external system announcement identifiers into a customized announcement as defined in the DMS. Customized announcements in the DMS are defined as a tuple in table DRMUSERS indexed by a CLLI and an ANNNUM.

This mapping table provides the flexibility to reuse announcements on the DMS, while maintaining a unique identifier into the customized announcements from the external interface.

The information required to access the customized announcement capability on the DMS is the CLLI and the ANNNUM. The CLLI must be defined in table ANNS, using existing announcement type AIN (in field ANTYPE), prior to datafilling the new table - AINANNS, and the CLLI and ANNNUM must exist in table DRMUSERS. Figure 285 illustrates sample datafill for table AINANNS.

Figure 285 Sample datafill for table AINANNS

Key	Data Portion of tuple	
Range 1 - 65535	CLLI	ANNNUM
25	ANN	1
76	ANN	2
100	ANN	3
299	ANNMSG	1

48.1.2 Datafilling hierarchy

Figure 286 on page 1046 illustrates the datafill order required before anything can be entered into table AINANNS. Start at table CLLI and follow the arrows.

Figure 286 Datafill hierarchy

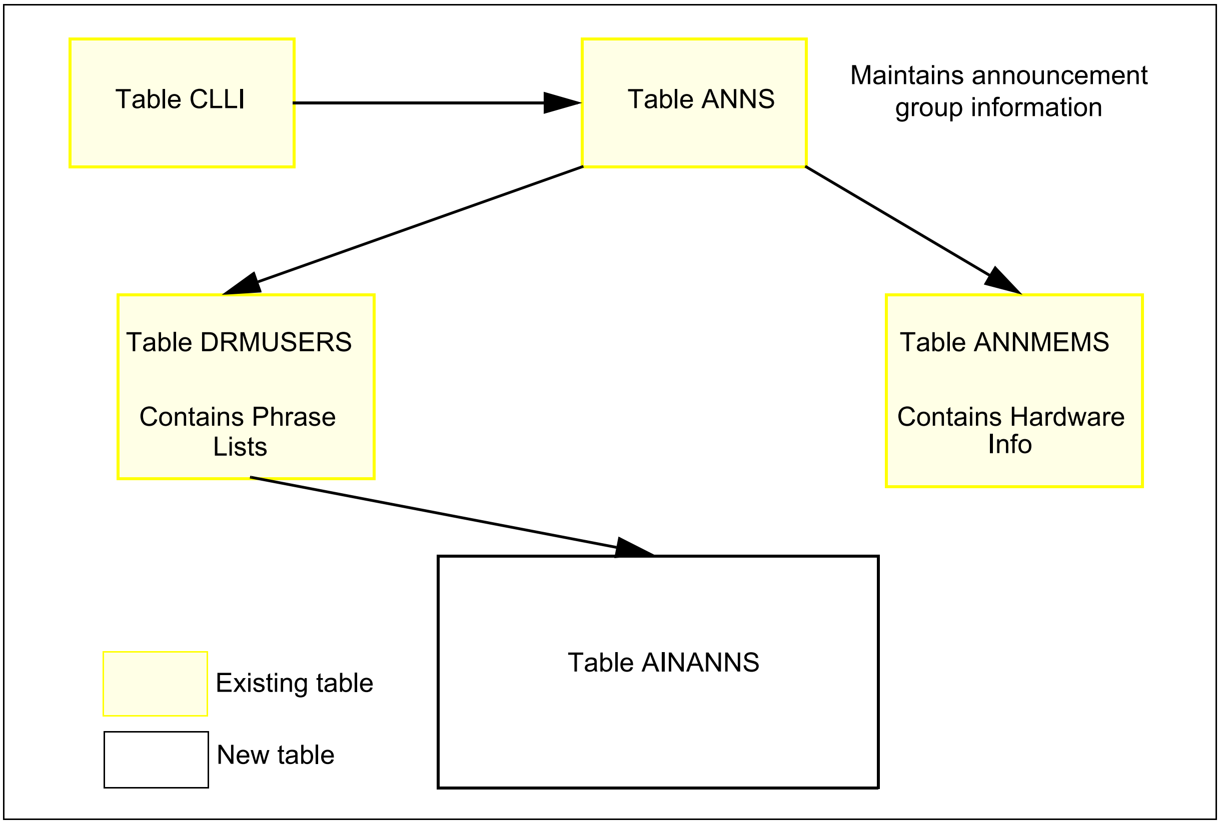


Table CLLI provides a name to associate to the concept of announcement groups. The name datafilled in table CLLI is used as a key in table ANNS which provides announcement group information, mostly on how the messages in this group are played (for example, duration and repeatability).

Tables DMRUSERS and ANNMEMS provide information about individual announcements. Table ANNMEMS provides the physical location relative to the hardware setup, and table DRMUSERS identifies the phrase or phrases that build the message. Table ANNMEMS is not required to be datafilled before AINANNS, but it must be datafilled before messages can be played.

Tables DRMUSERS and AINANNS maintain a relationship that allows many tuples from table AINANNS to reference individual tuples in table DRMUSERS. Tuples cannot be added to table AINANNS that reference non-existent tuples in table DRMUSERS. The deletion of a tuple in table DRMUSERS is blocked when there is a reference to that tuple in table AINANNS.

48.1.3 Pronouncing digits and language status

The phrase(s) referenced in table DRMUSERS do not always represent hardware phrases. Some phrases are place holders for actions that are to occur as the DMS system is preparing to play the given message (phrase or phrases) to an agent. There are four DMS provided place-holder phrases for pronouncing digits: ENGVARDNM, ENGVARDNF, FREVARDNM, and FREVARDNF. When one of these phrases is present in a phrase list, it indicates an insertion point for digits provided by the SCP response are in the form of actual "digits" phrases (that is, Digits "123" would become phrases for pronouncing the digit "1", "2", and "3" as part of the message).

There are two language phrases, LANGUAGE1 and LANGUAGE2, that act as an activator and deactivator for pronouncing phrases, depending on the language status of the agent receiving the announcement. Figure 287 shows how the language status is determined for an agent.

Figure 287 Determining agent language status

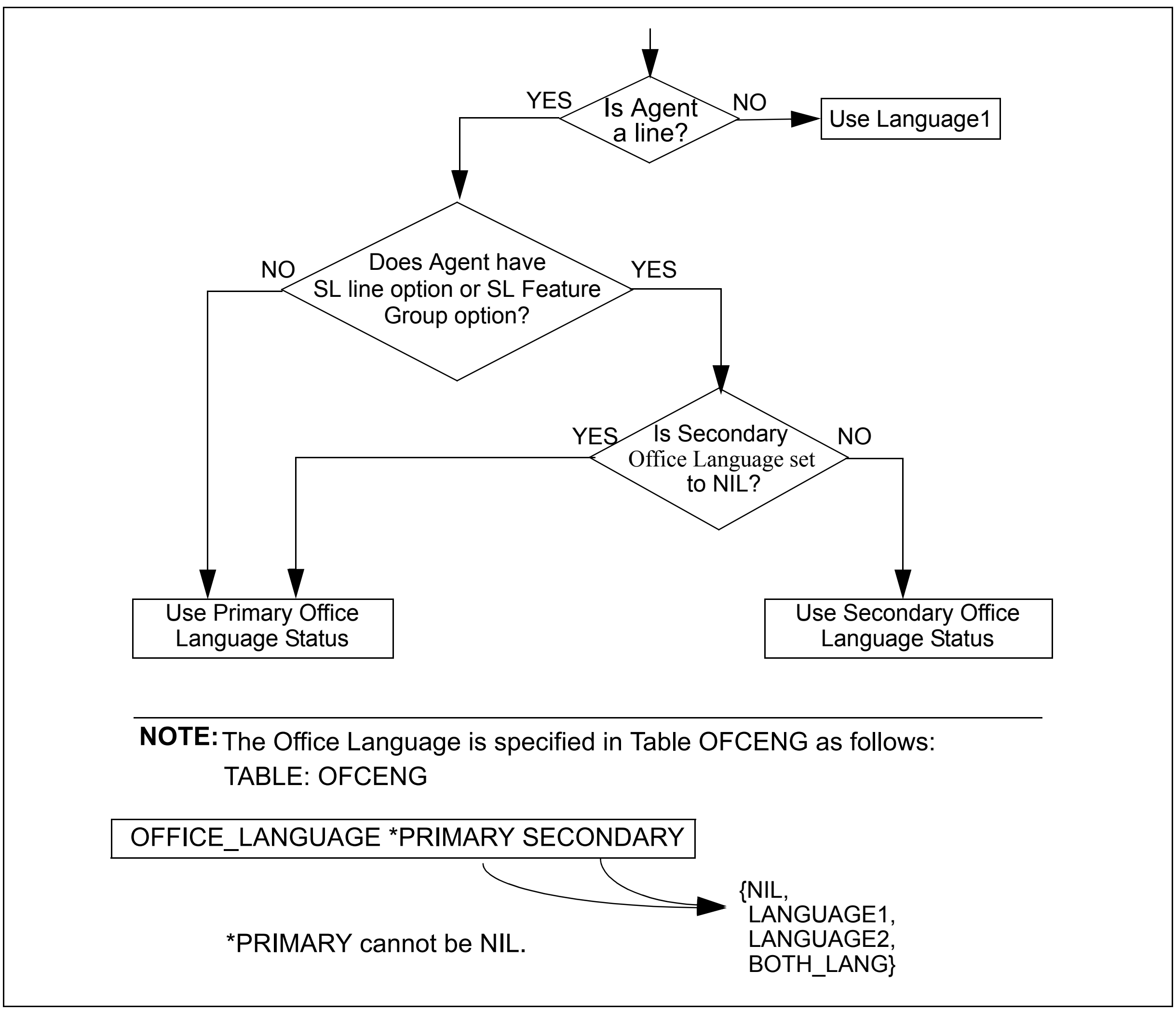


Figure 288 illustrates how LANGUAGE1 and LANGUAGE2 phrases work.

Figure 288 Sample using phrases LANGUAGE1 and LANGUAGE2

TABLE: DRMUSERS

```
AINANN 1 (LANGUAGE1) (PHRASE1) (PHRASE2) (LANGUAGE2) (PHRASE3) (PHRASE4) $
```

Ex.1 When the agent status is LANGUAGE1 then only PHRASE1 and PHRASE2 are pronounced.

Ex.2 When the agent status is BOTH_LANG then PHRASE1, PHRASE2, PHRASE3, and PHRASE4 are pronounced.

The six special phrases (above), ENGVARDNM, ENGVARDNF, FREVARDNM, FREVARDNF, LANGUAGE1, and LANGUAGE2 are common to CFRA and CLASS features and AIN. This and more detailed information can be found in NTP 297-1001-527, *DMS 100 Family Digital Recorded Announcement Machine Maintenance Reference Manual*.

> ***Note:*** No more than 24 digits can be pronounced for a given announcement. Digits beyond the 24th digit up to and including the 32nd digit are ignored. Any digits entered beyond the 32nd digit, causes an application error of erroneous data value.

48.1.4 Error detection

The following errors can occur:

- When the System Announcement Identifier received in the StrParameterBlock Parameter of the Send_to_Resource Message corresponds to a Customized Announcement which is unavailable, the SSP does the following:
- When the unavailable resource occurred when the Send_to_Resource Message was received with a Conversation Package type, a Resource_Clear Message is returned to the Off-board processor with a ClearCause “Failure”, and a FailureCause “Unavailable Resource”.
- When the unavailable resource occurred when the Send_to_Resource Message was received with a Response Package type, the calling party is sent to reorder treatment.
- When the System Announcement Identifier received in the StrParameterBlock Parameter of the Send_to_Resource Message does not correspond to an index defined in table AINANNS, the SSP does the following:
- When the erroneous data occurred when the Send_to_Resource Message was received with a Conversation Package Type, the SSP returns an Application_Error to the Off-board processor with an ErrorCause “Erroneous Data”.

- When the erroneous data occurred when the Send_to_Resource Message was received with a Response Package Type, the SSP applies final treatment to the calling party.
- When the StrParameterBlock contains digits which should be pronounced to the calling party and the Customized Announcement is not datafilled to pronounce digits, then the digits received are discarded and the playing of the announcement continues.
- When the StrParameterBlock does not contain digits which should be pronounced to the calling party and the Customized Announcement specifies that digits are to be pronounced, then only the announcement is played.

48.2 Datafilling steps for the internal Send_To_Resource

The SSP must handle the System Announcement Identifier received from the off-board processor in the StrParameterBlock parameter of the Send_To_Resource message. The System Announcement Identifier indicates to the SSP which announcement to play to the calling party. Datafill is required in Table AINANNS to map the external System Announcement Identifier to an internal DMS announcement.

48.2.1 Step 1: Datafilling table CLLI

Table CLLI provides a name that denotes the concept of announcement groups. A CLLI name must be datafilled in table CLLI before it can be referenced in table ANNS.

48.2.2 Step 2: Datafilling table ANNS

Table ANNS provides announcement group information, mostly on how the messages in this group are played (that is, their duration and repeatability).

- In response to the CLLI prompt, enter the CLLI name defined in Section 48.2.1 “Step 1: Datafilling table CLLI” on page 1049.
- In response to the ANTYPE prompt, enter AIN to specify that this is for an AIN announcement.

48.2.3 Step 3: Datafilling table ANNMEMS

Tables ANNMEMS provides information about individual announcements. It provides the physical location relative to the hardware setup.

In response to the ANNMEM prompt, you are asked to enter values for fields CLLI and MEMBER. For field CLLI, enter the CLLI defined in Section 48.2.1 “Step 1: Datafilling table CLLI” on page 1049; for field MEMBER, enter an integer between 0 to 255.

48.2.4 Step 4: Datafilling table DRMUSERS

Table DRMUSERS provides information about individual announcements. It identifies the phrase or phrases that actually make up the message.

There is a one-to-one relationship between table ANNMEMS and table DRMUSERS, although the relationship is not enforced.

In response to the USERANN prompt, you are asked to enter values for the fields CLLI and ANNNUM. For the field CLLI, enter the CLLI defined in Section 48.2.1 “Step 1: Datafilling table CLLI” on page 1049; for the field ANNNUM, enter the DMS announcement number.

48.2.5 Step 5: Datafilling table AINANNS

Tables DRMUSERS and AINANNS actually maintain a relationship that allows many tuples of AINANNS to refer to individual tuples in DRMUSERS. Tuples cannot be added to AINANNS that refer to non-existent tuples in DRMUSERS. In addition, deletion of a tuple in DRMUSERS is blocked when there is a reference to that tuple in AINANNS.

- In response to the KEY prompt, enter the announcement identifier received from the off-board processor.
- In response to the CLLI prompt, enter the CLLI defined in Section 48.2.1 “Step 1: Datafilling table CLLI” on page 1049.
- In response to the ANNNUM prompt, enter the same value as field ANNUM in table DRMUSERS. This maps the announcement identifier received from the off-board processor to a DMS announcement identifier.

When one of the announcement identifiers specified in Table 438 is not datafilled in table AINANNS and it is received from the off-board processor in the StrParameterBlock of the Send_To_Resource message, the call is routed to the corresponding tone subject to other conditions specified in the table.

Table 438 Tones available to STR requests

Tone	STR ID	Interruptible	Uninterruptible non-terminating (note 1)	Uninterruptible terminating (note 2)
Silent (NIL) tone	5	yes	no	yes
Special dial tone	6	yes	no	yes
Confirmation tone	12	NO (Note 2)	yes	yes
Reorder tone	13	no	no	yes
Dial tone	14	yes	no	yes

Table 438 Tones available to STR requests (Continued)

Tone	STR ID	Interruptible	Uninterruptible non-terminating (note 1)	Uninterruptible terminating (note 2)
Note 1: In conversation package ***Note 2:*** In response package ***Note 3:*** No means that the system does not support the tone in the particular context (for example, as interruptible). In this case the call is sent to AINF treatment and a Resource Clear message is sent back to the SCP indicating Application Error.				

After datafilling these tables, see NTP 297-1001-360, *DMS-100 Family Digital Recorded Announcement Machine Maintenance Reference Manual* to record the announcements.

48.2.6 Internal Send_To_Resource example

The following example illustrates the datafilling required for the SSP to handle the Send_To_Resource response message. Figure 289 on page 1052 illustrates the datafill for the call. It also shows the dependencies between the datafilling tables. Apply the instructions already outlined in steps 1 to 5 to add the sample tuples shown in Figure 289 on page 1052.

In Figure 289 on page 1052, a Send_To_Resource message is received at the SSP and the System Announcement Identifier is 1

Figure 289 Sample datafill for Send_To_Resource announcement example

CLLI

CLLI	ADNUM	TRKGRPSIZ	ADMININF
AINANN	888	19	AIN_ANNOUNCEMENT

ANNS

CLLI	ANTYPE	TRAFSNO	MAXCONN	CYTIME	MAXCYC
AINANN	AIN	0	4	14	1

ANNMEMS

ANN	MEMBER	HDWTYPE	CARD	MEMINFO
AINANN	1	EDRAM	DRA	0 DTM 0 7

DRMUSERS

CLLI	ADNUM	PHSLIST
AINANN	1	ENG1 ENG1 ENG1 $

AINANNS

KEY	CLLI	ANNNUM
1	AINANN	1

48.3 Datafilling steps for the intelligent peripheral

The connection between the Intelligent Peripheral (IP) and the DMS SSP must be with a PRI link (NI-2 variant). The variant of the PRI link is specified in Table LTDEF (LTCLASS= PRA, VARIANT= NIPRI, ISSUE= NI2V1).

Furthermore, the STR-connection can only terminate on the PRI link when option AIN_IPI_STR is present in table LTDATA.

When the PRI variant is not NI-2 or when option AIN_IPI_STR is not present in table LTDATA then a Resource_Clear with ClearCause=Abort message is sent to the off-board processor.

The send to resource to IP response uses ISDN translations during response processing. It is necessary to ensure that the tables RCNAME and RTECHAR are properly datafilled. See Chapter 51: “Datafilling for toll-free service” on page 1071, or Chapter 1: “Overview of AIN response translations” on page 45.

48.3.1 Sample datafill for Intelligent Peripheral

The following example illustrates the datafilling required for the SSP to connect to an external Intelligent Peripheral upon receiving a Send_To_Resource response message with a DestinationAddress parameter.

Figure 290 illustrates the datafill for the call. It also shows the dependencies between the datafilling tables.

Figure 290 Sample datafill for connecting External Intelligent Peripheral

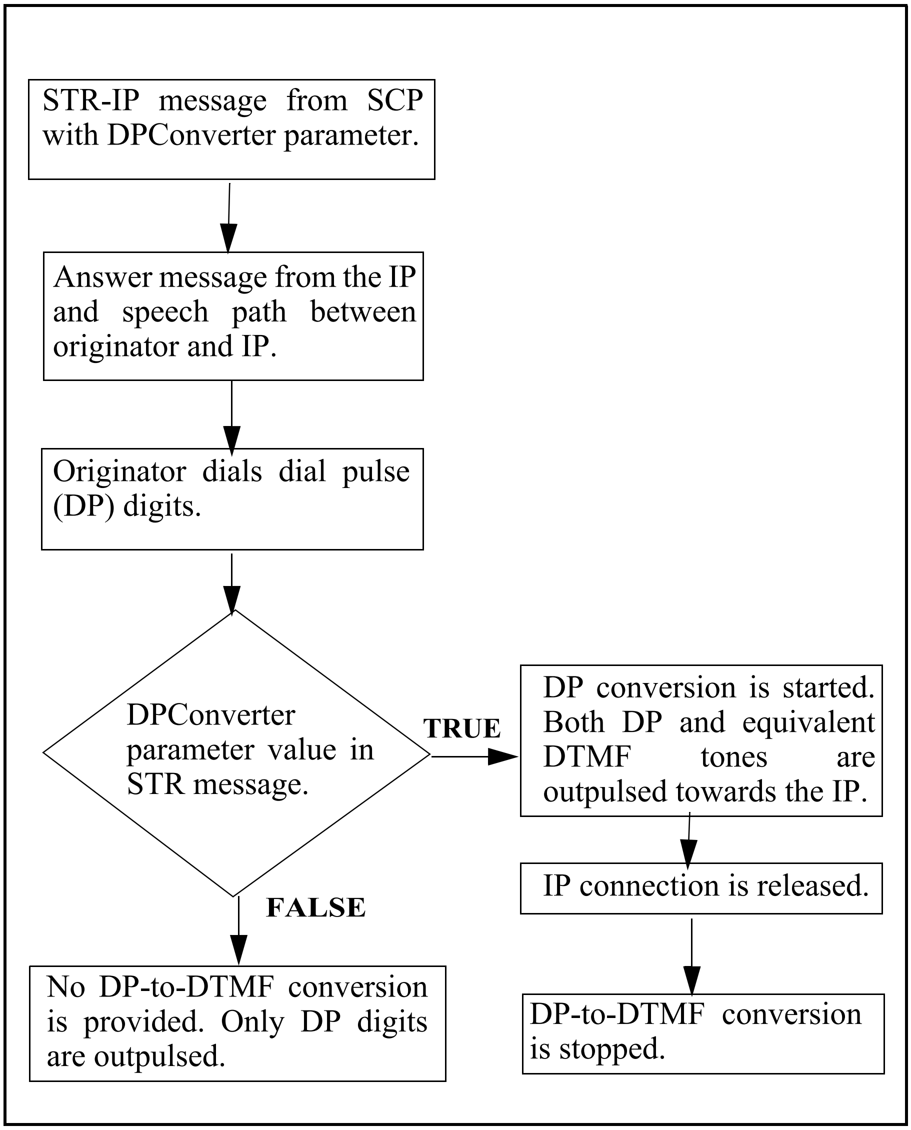
LTDEF											
LTKEY		**LTAP**	**CLASSREF**								
LTGRP	**LTNUM**		**LTCLASS**	**NUMBCHNL**	**NUMCALLS**	**INCALLS**	**OUTCALLS**	**VARISSUE**		**PROFNAME**	**OPTION**
								VARIANT	**ISSUE**		
ISDN	577	B	**PRA**	10	10	5	5	**NIPRI**	**NI2V1**	NIL	(NOPMD) $

LTDATA								
LTDKEY			**LTDRSLT**					
LTINDEX		**DATATYPE**	**DATATYPE**	**AUDTRMT**	**CGNREQD**	**CGNDELV**	**CDNDELV**	**SERVICE_OPTIONS**
LTGRP	**LTNUM**							
ISDN	577	SERV	SERV	N	N	ALWAYS	ALWAYS	(**AIN_IPI_STR**) $

48.4 DP-to-DTMF conversion for STR-IP conversion

When the SSP receives DPConverter parameter in the Send_To_Resource message, the DP to DTMF digit conversion is performed only for the duration of the call to IP. Please refer to “Figure 291 DP to DTMF Conversion for STR-IP” on page 1055.

Figure 291 DP to DTMF Conversion for STR-IP



48.5 Timeout Requested Event

The SCP can respond to a Timeout Requested event query with a Send_To_Resource message.

When a Send_To_Reource message is received in response to Timeout EDP-R, tear forward occurs toward the terminator. The tear-forwarded agent is released to the IDLE state and receives a dial tone. Tear forward refers to the process of subtracting all real and virutal agents associated with NELS, from the agent where tear forward occurs, to the terminator. The call is routed to an internal resource or IP. Events armed subsequent to the timeout event are closed with a closecause of "EDPsCompleted". Events armed prior to Timeout remain active.

When a Continue message is received for Resource_Clear after STR-IP, the originator receives DISC treatment. After Continue is received for Resource_Clear, all the events armed in that call-leg are closed.

When the party_on_hold or party_id parameter is received in an STR message, SSP sends ApplicationErrorMessage to SCP with errorcause "errorneousdatavalue".

The following describes functional behavior upon receipt of the Send_To_Resource Message for typical scenarios.

A-> SDS1 -> AR + O_Disconnect -> SDS2 -> AR + Timeout -> B -> Timeout EDP-R -> STR -> IP -> res_clear -> Continue.

- A calls SDS1.
- The SDS1 trigger is hit and a query is sent to the SCP.
- The SCP returns an AR message with called_party_id as SDS2 armed with O_Disconnect event.
- The SDS2 trigger is hit and a query is sent to the SCP.
- The SCP returns an AR message with called_party_id as B armed with Timeout event.
- The call lands on B. B answers.
- The Timeout Timer started.
- The Timer expires and a Timeout EDP-R is sent to the SCP.
- The SCP returns a STR-IP message and the call lands on an IP or internal resource.
- The IP disconnects and res_clear is sent to the SCP. The SCP returns a Continue response
  - — When STR is received for Timeout, B receives a dialtone.
  - — When the Continue is received after res_clear, O_Disconnect NEL is closed with closecause of "EDPsCompleted."
  - — When the Continue response is received, A receives DISC treatment.

A-> SDS1 -> AR + O_Disconnect -> SDS2 -> AR + Timeout -> B -> Timeout EDP-R -> STR -> IP -> res_clear -> AR -> C.

- A calls SDS1.
- The SDS1 trigger is hit and a query is sent to the SCP.
- The SCP returns an AR message with called_party_id as SDS2 armed with O_Disconnect event.
- The SDS2 trigger is hit and a query is sent to the SCP.
- The SCP returns an AR message with called_party_id as B armed with Timeout event.
- The call lands on B. B answers.
- The Timeout Timer started.
- The Timer expires and a Timeout EDP-R is sent to the SCP.
- The SCP returns an STR-IP message and the call lands on an IP or an internal resource.
- The IP disconnects and res_clear is sent to the SCP. The SCP returns an AR response, and the call lands on C.
  — When STR is received for Timeout, B receives a dialtone.
  — When an AR is received after res_clear, O_Disconnect NEL remains active.

48.6 O_Disconnect_Called Event

The SCP can respond to a O_Disconnect_Called Requested event query with a Send_To_Resource message.

When a Send_To_Reource message is received in response to O_Disconnect_Called EDP-R, tear forward occurs toward the terminator. The tear-forwarded agent is released to the IDLE state and receives a dial tone. Tear forward refers to the process of subtracting all real and virutal agents associated with NELS, from the agent where tear forward occurs, to the terminator. The call is routed to an internal resource or IP. Events armed subsequent to the O_Disconnect_Called event are closed with a closecause of “EDPsCompleted”. Events armed prior to O_Disconnect_Called remain active.

49 Cancel_Resource response

This chapter describes the Cancel_Resource response.

49.1 General

When the off-board processor sends the SSP a Send_To_Resource response and the Send_To_Resource operation does not request digit collection, the off-board processor can follow through with a Cancel_Resource response.

The Cancel_Resource directs the SSP to stop the non-interruptible announcement and return a RESOURCE_CLEAR message to the off-board processor.

49.2 Datafilling requirements

None.

50. Offer_Call response

50.1 General

The Offer_Call response message is sent from the SCP in a reply message to a T_Busy request at the T_Busy trigger detection point (TDP). When an Offer_Call message is received, the SSP performs the following tasks:

- the SSP attempts to offer the call to the called party when one of the following conditions is satisfied
  - the called party is served by a non-ISDN line and has subscribed to call waiting (CWT) or,
  - the calling party is subscribed to call waiting originating (CWO) and dial call waiting (CWD), and the call waiting service is inactive (for example, a call is not waiting) or,

    Note: The call waiting feature must not be deactivated by the called party (CCW is not active).
  - the called party is served by an ISDN BRI line and has subscribed to additional call offering unrestricted (ACOU)

    Note: It is possible to offer the call when there is an idle call appearance on the DN and the notification busy limit (NBL) has not been exceeded.
- when the call cannot be offered (because the above conditions could not be satisfied), the call encounters one of the following scenarios
  - the call forwarding busy line (CFBL) when it is available or,
  - a busy indication is passed to the originating call model (OCM) or,
  - the SSP provides final treatment

- when the Display text is included in the Offer_Call message, the SSP attempts to deliver this information to the called party
- when the call is offered, but remains unanswered, it can encounter the T_No_Answer trigger or call forward don't answer variant when they are provisioned

Note: When both trigger T_No_Answer and the call forward don't answer variant are provisioned, then the shortest no-answer timer takes precedence and the feature corresponding to the longer timer is not activated.

50.2 Changes to T_Busy query population

When the T_Busy trigger or event is detected, the T_Busy EDP-R or TDP-R query is sent to the SCP. One of the parameters in the T_Busy query is parameter BusyType, that can be populated with CallCanBeOffered or CallCannotBeOffered.

Note: Prior to NA011, parameter BusyType was populated with the value CallCannotBeOffered.

When the SOC Option (AIN00255) is ON, this activity enhances the T_Busy query by indicating in parameter BusyType whether or not the call can be offered. Parameter BusyType is populated with CallCanBeOffered in the T_Busy query, when the call can be offered. See Section 50.1 on page 1061 for information on when a call can be offered, otherwise, parameter BusyType is built as CallCannotBeOffered in the T_Busy query.

50.2.1 Offer_Call message parameters

Table 439 "Parameters in the Offer_Call Message" lists all the parameters that make up the Offer_Call message. Unsupported parameters are shaded in the table and the parameters are arranged in alphabetical order. The letter O in brackets, indicates that this parameter is optional in the Offer_Call message.

Table 439 Parameters in the Offer_Call Message

Parameter	Description
AMAAlternateBillingNumber (O)	Functionality inherited from AIN Essentials.
AMABillingFeature (O)	
AMABusinessCustomerID (O)	Functionality inherited from AIN Essentials.
AMADigitsDialedWC (up to 5) (O)	Functionality inherited from AIN Essentials.
AMALineNumber (up to 2) (O)	Functionality inherited from AIN Essentials.
Note: Parameters in shaded areas are not supported in this message for the NA011 release.	

Table 439 Parameters in the Offer_Call Message (Continued)

Parameter	Description
AMASequenceNumber (O)	
AMAslpID (O)	Functionality inherited from AIN Essentials.
Amp1 (O)	
Amp2 (O)	
CallingPartyID (O)	See Section 6.4.4.19.11 on page 223.
ControllingLegTreatment (O)	See Section 6.6.13.11 on page 306.
DisplayText (O)	See Section 6.6.13.13 on page 306.
ExtensionParameter (O)	
PrimaryBillingIndicator (O)	Functionality inherited from AIN Essentials.
ServiceContext (O)	
ServiceProviderID (O)	
Note: Parameters in shaded areas are not supported in this message for the NA011 release.	

50.3 Offer_Call response processing

The Offer_Call response is an SCP-to-SSP message that is received in response to the T_Busy query message at the TBUSY detection point in the terminating call model (TCM). Figure 292 on page 1064 illustrates the AIN TCM. The thick arrow indicates the supported transition for Offer_Call processing, and the unshaded area shows the supported point in call (PIC), TDPs and EDPs for this feature.

The detailed Offer_Call message processing is described in Figure 293 on page 1065.

Figure 292 AIN terminating call model

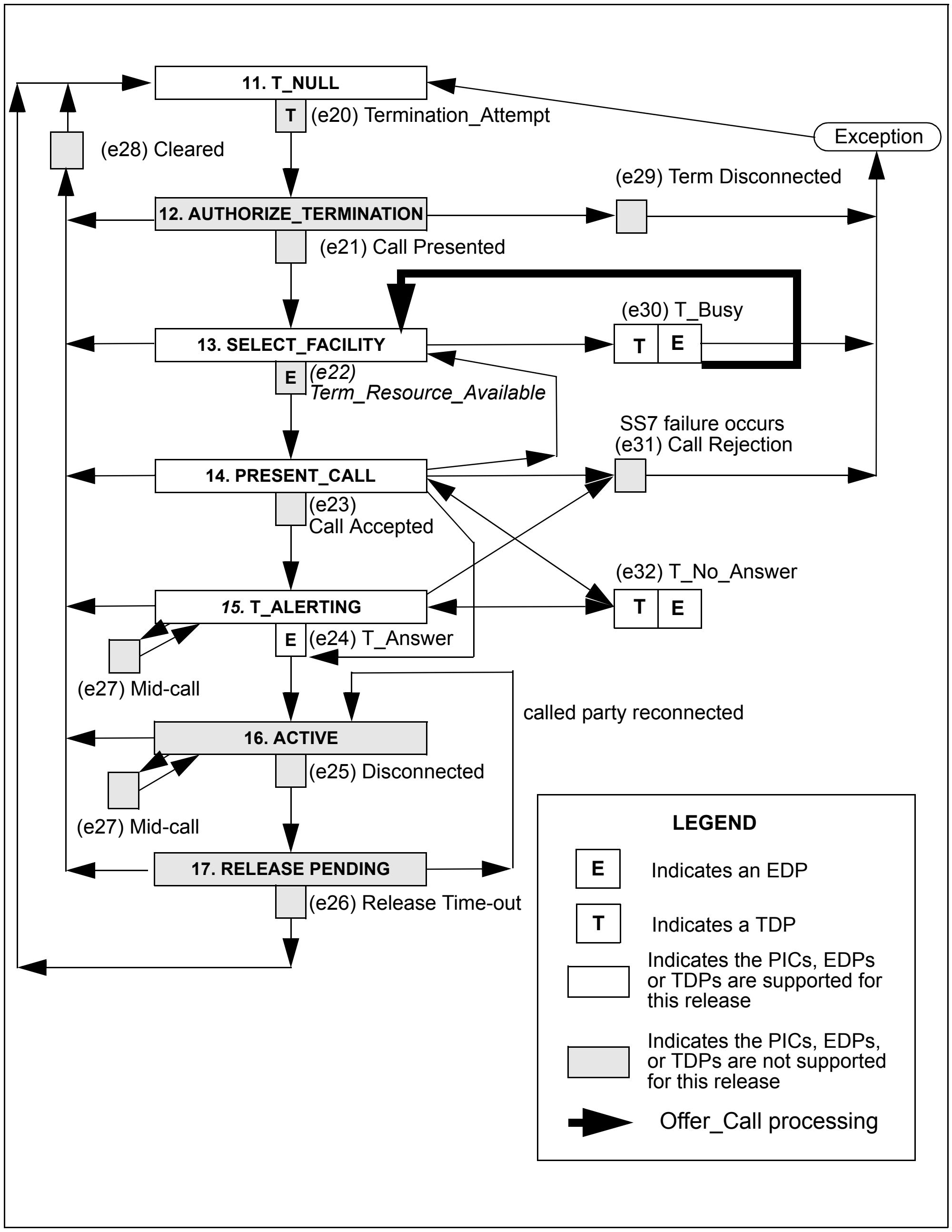
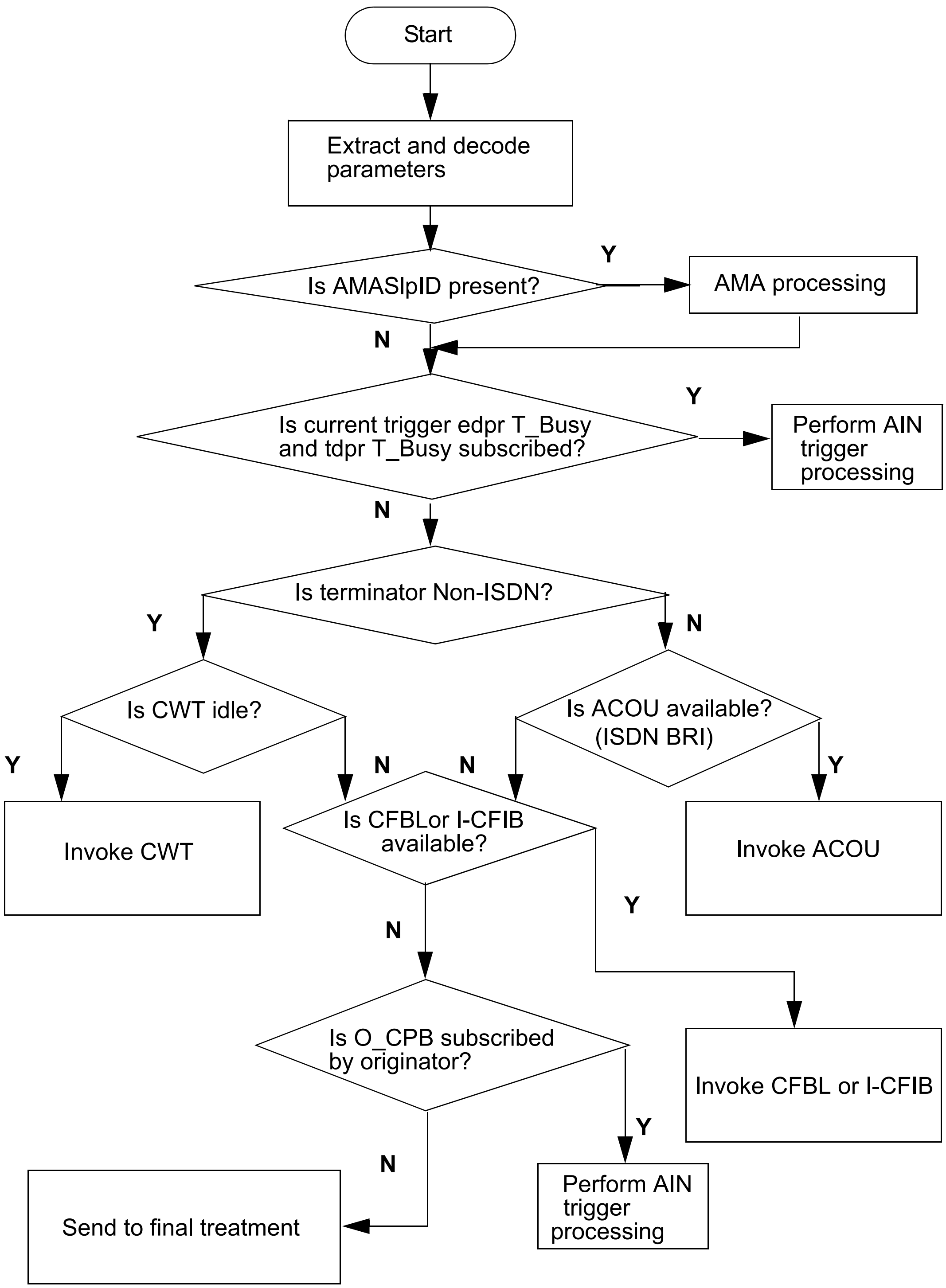


Figure 293 Offer_Call processing



50.4 Request_Report_BCM_Event with Offer_Call message

The Offer_Call message can be received in a conversation package with a Request_Report_BCM_Event component.

In feature, Support for Offer_Call response (AU3180), RRBCME events T_Answer and T_No_Answer are supported for the Offer_Call message. Any other AIN events received with an Offer_Call response are ignored.

50.5 AIN triggering following an Offer_Call response

The Offer_Call message resumes call processing at the Select_Facility point in call (PIC) of the TCM. This is the same PIC as the detection point for trigger T_Busy, therefore, any applicable triggers at (and following) this PIC can be encountered. A list of triggers that can be encountered after the Select_Facility PIC are as follows:

- trigger detection point-request (TDP_R) T_Busy
- event detection point-notification (EDP_N) T_Answer
- event detection point-request (EDP_R) T_No_Answer
- TDP_R T_No_Answer
- TDP_R O_Called_Party_Busy
- TDP_R O_No_Answer

To encounter trigger TDP_R T_Busy, the Offer_Call message must be in response to the EDP_R T_Busy event.

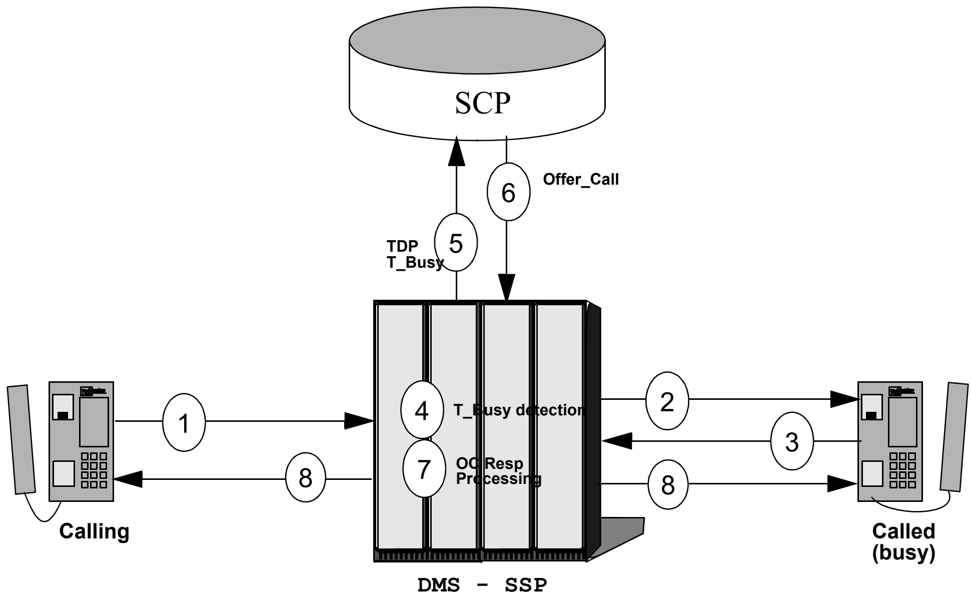
50.6 Call scenarios

This section describes samples of call scenarios when the Offer_Call message is received after a T_Busy TDP-R and EDP-R respectively.

50.6.1 Trigger T_Busy with an Offer_Call response

Figure 294 on page 1067 describes an Offer_Call message containing parameter Display_Text, that is received in response to a T_Busy TDP-R. The originating agent attempts to call a busy terminating agent. The terminating agent is subscribed to the T_Busy trigger, to call waiting, and to caller identification on call waiting. Trigger T_Busy is detected and processed during the call attempt.

Figure 294 Basic call example with trigger T_Busy and Offer_Call



An explanation of Figure 294 “Basic call example with trigger T_Busy and Offer_Call” is as follows:

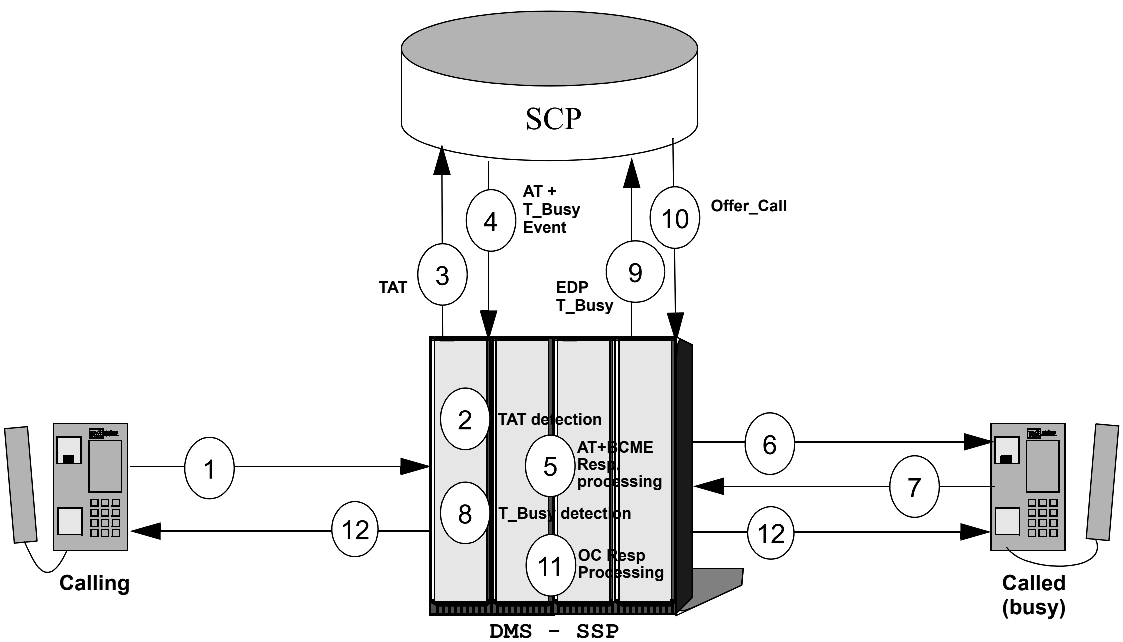
1. The originator (calling party) dials the terminator (called party) DN.
2. The SSP attempts to establish a connection with the called party.
3. The SSP identifies the called party as busy.
4. The called party busy criteria is met and trigger T_Busy is detected. The SSP checks whether CWT is available and ensures that a call is not on hold for the called party. The query is populated with parameter BusyType, indicating that the call can be offered. The SSP does not yet provide any audible signal to the calling party.
5. A T_Busy trigger request message is sent to the SCP. The SSP does not provide a busy indication to the calling party (it waits for instructions from the SCP response).
6. The SCP sends the Offer_Call message to the SSP.
7. The Offer_Call response is decoded.
8. The call terminates, a call waiting tone is applied to the called party, and audible ringing is applied to the calling party.
9. AMA: SC 0221 is generated when the AMAslpID is returned in step 6. A conventional switch-based AMA record is generated (when applicable) when AMAslpID is not returned in step 6.

50.6.2 T_Busy event with Offer_call response

Figure 295 “T_Busy event with an Offer_Call response” illustrates an Offer_Call message scenario with parameter DisplayText, that is received in response to a T_Busy event request. The originating agent attempts to call a terminating agent that is busy.

The terminating agent is subscribed to trigger Termination_Attempt, to call waiting, and to caller identification on call waiting. The response to trigger Termination_Attempt is Authorize_Termination with a T_Busy RRBCME message. The T_Busy event is detected and processed during the call attempt.

Figure 295 T_Busy event with an Offer_Call response



An explanation of Figure 295 “T_Busy event with an Offer_Call response” is as follows:

1. The originator (calling party) dials the terminator (called party) DN.
2. Trigger Termination_Attempt (TAT) is encountered and all criteria is met.
3. A TAT trigger query is sent to the SCP.
4. The SCP sends an Authorize_Termination message and a Request_Report_BCM_Event message that arms a T_Busy event.
5. The SCP response is decoded. The T_Busy event is armed.
6. The SSP attempts to establish a connection with the called party.
7. The SSP identifies that the called party is busy.

8. The T_Busy event is detected. The SSP checks whether CWT is available and ensures that no call is on hold for the called party. The query is populated with parameter Busy_Type, indicating that the call can be offered.
9. The T_Busy event request message is sent to the SCP. It waits for instructions from the SCP response.
10. The SCP sends an Offer_Call message to the SSP with the instructions to offer the call to the called party and to display the caller's identification.
11. The Offer_Call response is decoded and DisplayText information is extracted for delivery to the called party.
12. The call terminates, a call waiting tone is applied to the called party, the caller's identification is sent to the analog CPE, and audible ringing is applied to the calling party.

50.7 T_No_Answer trigger and event

The T_No_Answer (TNoA) trigger and event are encountered after the Offer_Call response, when the called party does not answer the call.

When the T_No_Answer trigger or event and the call forward don't answer feature are both on the call, only the feature with the shortest 'no-answer' timer is encountered.

50.8 Offer_Call DisplayText and alerting

The level of support for AIN Display Text (DT) in an Offer_Call message is the same as that for an Authorize_Termination message. It takes precedence over Class text display and alerting features.

> ***Note:*** AIN DT is under SOC control (AIN00008).

51 Datafilling for toll-free service

This chapter describes the procedures for operating company personnel to datafill the DMS-100 switch for toll-free service.

51.1 General

In translations, all the toll-free codes are datafilled with the NSC selector in HNPACONT.HNPACODE. Trunk originated calls use SSP selector in STDPRTCT.STDPRT as is shown in datafill example below (rather than using the NSC selector at pretranslation stage). This provided consistency. Hence, the NSC selector is always hit at the same place — HNPA table.

ATTENTION

All new 8xx code must have the NSC selector assigned in table HNPA-CONT.HNPACODE. To use AIN Service Enablers' toll-free service, the SSP selector must be used instead of the NSC selector in table STD-PRTCT.STDPRT

Note: When the EA trunk is subscribed to a Shared_Interoffice Trigger, the Service Enabler's toll-free service number range should be provisioned in the TRIGESC table to allow proper call processing.

A call originated from an FGD trunk arrives with the prefix 0ZZXXX where XXX=110 and indicates that the SSP function is needed. This prefix is stripped off during the pretranslation phase as follows:

```
TABLE STDPRTCT.STDPRT
077110 077110 SSP NP 6 6 NA
```

Further translations occurs in the HNPA table where NSC selector is hit as it is shown in the example.

```
TABLE HNPACONT.HNPACODE
800 800 NSC E800
888 888 NSC E800
877 877 NSC E800
```

Note that AMBI selector in HNPACODE table is used in a same manner as it is in use now for E800 calls. The corresponding tuples are datafilled as follows:

```
TABLE HNPACONT.HNPACODE
888 888 PFX DN 613621 NSC E800
877 877 TIM DN 613621 NSC E800
```

Table TFSSCRN indicates toll-free number ranges that AIN can manage and it is specific to AIN toll-free service. When AIN toll-free service is defined for trigger groups, it must be datafilled in tables TRIGDIG and PODPATTR. When AIN toll-free service is defined for trigger items it must be datafilled in table TRIGITM (specify the LARP option). See Section 51.2 for more information on these tables.

AIN toll-free service builds on top of E800/800P (IN toll-free service) for the US market and 800P for the Canadian market and this document assumes that E800/800P is already present and datafilled. Both AIN toll-free service and E800/800P (IN toll-free service) require datafill in the following tables:

- HNPACONT.HNPACODE to apply the NSC selector to each toll-free code as described above
- STDPRTCT.STDPRT to apply the SSP selector to incoming FGD trunks as described above
- EASAC should include each toll free code for which casual dialing (10XXX or 101XXXX) is to be blocked. Typically all toll-free codes should be included in EASAC
- NSCDEFS must have an entry for E800 to allow processing of the NSC selector. In an equal access tandem office the option NSCNUM must be set to 800 for the 00Y feature to function and the NSC0ZZ option must be set to the same 0ZZ code used in table STDPRTC.STDPRT
- SSPTKINF must be datafilled in access tandem offices to provide data on incoming trunk groups.

> ***Note:*** More information on datafilling E800 may be found in NTP 297-5151-021, *E800 SSP Toll-free Numbers Service Guide*.

51.2 Datafilling steps

The AINGRP field (trigger group name) in the applicable subscription table determines when an agent is subscribed to AIN using either the trigger group or the trigger item provisioning interface. When the keyword TIID is datafilled, the trigger item provisioning interface is in use. See Section 51.2.1 on page 1073. When a trigger group name is datafilled, the trigger group provisioning interface is in use. See Section 51.2.2 “Datafilling steps for trigger group provisioning interface” on page 1076.

51.2.1 Datafilling steps for the trigger item provisioning interface

Datafilling for AIN toll-free service in the trigger item provisioning interface consists of the following steps:

1. Datafilling tables LINEATTR, XLAPLAN, and RATEAREA--this step sets up line attributes that are specified on the toll-free trigger to override the originator's line attributes.
2. Datafilling table TRIGITM--this step defines the AIN toll-free triggers, identifies whether toll-free specific query and response processing is needed, and assigns the overriding line attributes to allow all calls encountering this trigger to bypass screening. AIN toll-free service uses trigger SDS with the LARP option.
3. Datafilling the failure path--when a number range is assigned to AIN toll-free service, but no AIN trigger items are defined, the call is sent to a default route. The treatment applied on the default route must be datafilled. When the entries in tables TRIGITM and TFSSCRN are aligned, this route should never be used.
4. Datafilling table TFSSCRN--this step indicates the range of toll-free numbers that are subject to AIN toll-free processing.

> ***Note 1:*** Special datafilling for pretranslation is required for TOPS offices to process AIN Service Enablers' toll-free calls. See Section 51.6.5 "Additional datafilling for TOPS offices" on page 1092.
>
> ***Note 2:*** In AIN Service Enablers, trigger Specific_Digit_String (SDS) is equivalent to trigger PODP in AIN Essentials. Since both triggers share the same provisioning, TRAVER, and other provisioning tools use the term PODP to refer to the AIN Service Enablers' SDS trigger.

It is important when datafilling for steps 1, 2 and 4, that they are aligned. Each range of toll-free numbers in table TFSSCRN must have corresponding triggers datafilled in table TRIGITM and each AIN toll-free trigger in table TRIGITM must have the LARP option datafilled.

The provisioning tables should be datafilled in the sequence shown in this section to ensure that the AIN toll-free triggers are set up in table TRIGITM prior to the time when toll-free traffic is sent to AIN with table TFSSCRN.

See Section 51.2.1.1 "Step 1: Datafilling tables LINEATTR, XLAPLAN, and RATEAREA" to Section 51.2.1.5 "Step 5: Verifying with TRAVER" on page 1076 for details on the information required in each of the tables.

51.2.1.1 Step 1: Datafilling tables LINEATTR, XLAPLAN, and RATEAREA

Toll-free service must bypass screening based on the originator's line attributes. To allow this, the customer provides overriding line attributes by datafilling entries in tables LINEATTR, XLAPLAN, and RATEAREA, corresponding to each AIN toll-free trigger requiring datafill in table TRIGITM and specified with the LARP option. The line attributes are defined in tables LINEATTR, XLAPLAN, and RATEAREA.

A sample tuple for table LINEATTR is provided in Figure 296.

Figure 296 Sample tuple in table LINEATTR

```
TABLE LINEATTR
123 1FR NONE NT 0 11 NILSFC 0 NIL NIL 00 $
```

A sample tuple for table XLAPLAN is provided in Figure 297.

Figure 297 Sample tuple in table XLAPLAN

```
TABLE XLAPLAN
888_P622_0 NSCR 800 P622 NONE N $
```

A sample tuple for table RATEAREA is provided in Figure 298.

Figure 298 Sample tuple in table RATEAREA

```
TABLE RATEAREA
L888_NILLA_5 NLCA NIL NILLATA $
```

These entries are associated to trigger SDS through the LARP option. By using the associated LINEATTR, XLAPLAN, and RATEAREA entries, translations bypasses local call area screening (with entry NLCA for field LCANAME in table RATEAREA) and class-of-service screening (with entry NSCR for field SCRNCL in table XLAPLAN).

51.2.1.2 Step 2: Datafilling table TRIGITM

Every number range assigned to AIN toll-free service must have corresponding AIN toll-free triggers that are datafilled as SDS triggers in table TRIGITM. Datafill table TRIGITM with the LARP option when using the trigger item provisioning interface. Every tuple in table TRIGITM needs a corresponding tuple in table OFCTIID to control the on and off function.

In table TRIGITM, trigger SDS supports a potential use (POTUSE) option field that allows query and response processing to be tailored to the service initiated by the AIN trigger. The toll-free service attribute for POTUSE is defined as “TFS”.

Toll-free entries in TRIGITM must be identified by the operating company with POTUSE=TFS. This attribute can only be assigned for MSGSET=R02.

The LARP option provides post query processing for trigger SDS. The LARP option allows translations to pick up line attributes associated with the toll-free trigger rather than the originator. It contains keys into tables LINEATTR, XLAPLAN, and RATEAREA, containing the line attributes for the trigger.

Examples of TRIGITM and OFCTIID tuples supporting GR-2892 TFS are provided in Figure 299.

Figure 299 Sample TRIGITM and OFCTIID tuples supporting GR-2892 TFS

```
TABLE TRIGITM
4 SDSTRIG1 SDS (DG 800811) $ ULK EVENT R02 SS7 GTT DFLT (POTUSE TFS)
(LARP 432 800_P811_34 L800_NILLA_2 NILC NILC)$

TABLE OFCTIID
4 SDSTRIG1 ON
```

> **ATTENTION**
> Each toll-free trigger in table TRIGITM must have the LARP option specified.

51.2.1.3 Step 3: Datafilling failure path

Toll-free service uses table HNPACONT route number 1, to route a call that is not datafilled in table TRIGITM. Table HNPACONT should be datafilled as follows:

1. In response to the RTE prompt, type 1.
2. In response to the RTELST prompt, type S D VACT.

51.2.1.4 Step 4: Datafilling table TFSSCRN

> ***Note:*** When datafilling table TFSSCRN, table TRIGITM must have been datafilled first with POTUSE=TFS.

Table TFSSCRN is datafilled by operating company personnel with the ranges of the toll-free numbers that are subject to GR-2892 processing. Table TFSSCRN consists of the following fields:

1. In response to the TFSCODE prompt, type the toll-free code in use; for example, 800 or 877.
2. In response to the FROMNXX prompt, type the lower boundary of the range of the numbers belonging to GR-2892.
3. In response to the TONXX prompt, type the upper boundary of the range of the numbers belonging to GR-2892.

Table 440 “Sample datafill from TFSSCRN” provides sample datafill for table TFSSCRN.

Note: In Table 440, the first two tuples illustrate six digit segregation between TR-533 and GR-2892 calls. The third tuple illustrates 3 digit segregation.

Table 440 Sample datafill from TFSSCRN

TFSCODE	FROMNXX	TONXX
800	822	999
877	622	999
866	000	999

ATTENTION
All entries in table TFSSCRN must have a corresponding entry in table TRIGITM. Table TRIGITM must be datafilled first.

51.2.1.5 Step 5: Verifying with TRAVER

TRAVER is enhanced to support table TFSSCRN. TRAVER displays table TFSSCRN contents and simulates the path of an AIN call.

51.2.2 Datafilling steps for trigger group provisioning interface

Datafilling for AIN toll-free service in the trigger group provisioning interface consists of the following steps:

1. Datafilling table TRIGDIG —this step defines the AIN toll-free triggers and identifies that toll-free specific query and response processing is needed. AIN toll-free service uses trigger SDS.
2. Datafilling tables PODPATTR, LINEATTR, XLAPLAN, and RATEAREA—this step allows AIN toll-free calls to bypass screening based on the routing number and assign line attributes based on the toll-free trigger.
3. Datafilling the failure path—when a number range is assigned to AIN toll-free service, but no AIN triggers are defined, the call is sent to a default route. The treatment applied on this route must be datafilled. When the entries in tables TRIGDIG and TFSSCRN are aligned, this route should never be used.
4. Datafilling table TFSSCRN—this step indicates the range of toll-free numbers that are subject to AIN toll-free processing.

Note 1: Special datafilling for pretranslation is required for TOPS offices to process AIN Service Enablers’ toll-free calls. See Section 51.6.5 “Additional datafilling for TOPS offices” on page 1092.

Note 2: In AIN Service Enablers, trigger Specific_Digit_String (SDS) is equivalent to trigger PODP in AIN Essentials. Since both triggers share the same provisioning, TRAVER and other provisioning tools use the term PODP to refer to the AIN Service Enablers' SDS trigger.

It is important that the datafilling in steps 1, 2 and 4 are aligned. Each range of toll-free numbers in table TFSSCRN must have corresponding triggers datafilled in table TRIGDIG, and each AIN toll-free trigger in table TRIGDIG must have a corresponding entry in table PODPATTR.

The provisioning tables should be datafilled in the sequence illustrated in this section to ensure that the AIN toll-free triggers are set up in tables TRIGDIG and PODPATTR prior to sending toll-free traffic to AIN with table TFSSCRN.

See Section 51.2.1.2 "Step 2: Datafilling table TRIGITM" on page 1074 to Section 51.2.1.5 "Step 5: Verifying with TRAVER" on page 1076 for details on the information required in each of the tables.

51.2.2.1 Step 1: Datafilling table TRIGDIG

Every number range assigned to AIN toll-free service must have corresponding AIN toll-free triggers that are datafilled as SDS triggers in table TRIGDIG. Datafill table TRIGDIG when using the trigger group provisioning interface.

In table TRIGDIG, trigger SDS supports a potential use (POTUSE) option field that allows query and response processing to be tailored to the service initiated by the AIN trigger. The toll-free service attribute for POTUSE is defined as "TFS".

Toll-free entries in table TRIGDIG must be identified by the operating company with POTUSE=TFS. This attribute can only be assigned for MSGSET=R02.

An example of a TRIGDIG supporting GR-2892 TFS is provided in Figure 300.

Figure 300 Sample TRIGDIG supporting GR-2892 TFS

```
TABLE TRIGDIG
PODPDIG PODP 800811 PODP EVENT TCAP R02 SS7 GTT DFLT
(POTUSE TFS) $
```

> **ATTENTION**
> Each toll-free trigger in table TRIGDIG must have a corresponding entry added to table PODPATTR.

51.2.2.2 Step 2: Datafilling tables PODPATTR, LINEATTR, XLAPLAN, and RATEAREA

Toll-free service must bypass screening based on the originator's line attributes. To allow this, the customer provides overriding line attributes by datafilling entries in tables PODPATTR, LINEATTR, XLAPLAN, and RATEAREA, corresponding to each AIN toll-free trigger datafilled in table TRIGDIG.

Table PODPATTR provides post query processing for trigger SDS based on the SDS number. The entry in table PODPATTR allows translations to pick up line attributes associated with a toll-free trigger rather than the originator. The entry contains keys into tables LINEATTR, XLAPLAN, and RATEAREA, that contain the line attributes for the trigger.

Note: When ChargePartyStationType and/or ChargeNumber is not present in the Analyze_Route response, the ChargePartyStationType depends on the triggering agent rather than the line attributes associated with the toll-free trigger. AIN TFS uses the original values in the query for the ChargeNumber.

A sample tuple for table PODPATTR is provided in Figure 301.

Figure 301 Sample tuple in table PODPATTR

```
TABLE PODPATTR
KEY    LINEATTR   XLAPLAN       RATEAREA        PIC     LPIC
888622   123      888_P822_5   L888_NILLA_14   NILC   NILC  $
```

A corresponding tuple example for table LINEATTR is provided in Figure 302.

Figure 302 Sample tuple in table LINEATTR

```
TABLE LINEATTR
123  1FR  NONE  NT  0  11  NILSFC  0  NIL  NIL  00  $
```

A corresponding tuple example for table XLAPLAN is provided in Figure 303.

Figure 303 Sample tuple in table RATEAREA

TABLE RATEAREA
L888_NILLA_14 NLCA NIL NILLATA $

These entries are associated to trigger SDS with digits 888622. By using the associated LINEATTR, XLAPLAN, and RATEAREA entries, translations bypasses local call area screening (with entry NLCA for field LCANAME in table RATEAREA) and class-of-service screening (with entry NSCR for field SCRNCL in table XLAPLAN).

51.2.2.3 Step 3: Datafilling failure path

Toll-free service uses table HNPACONT route number 1, to route a call that is not datafilled in table TRIGDIG. Table HNPACONT should be datafilled as follows:

1. In response to the RTE prompt, type 1.
2. In response to the RTELST prompt, type S D VACT.

51.2.2.4 Step 4: Datafilling table TFSSCRN

ATTENTION
All entries in table TFSSCRN must have a corresponding entry in table TRIGDIG. Table TRIGDIG must be datafilled first.

Note: Table TRIGDIG must be datafilled with POTUSE=TFS before datafilling table TFSSCRN.

Table TFSSCRN is datafilled by operating company personnel with the ranges of toll-free numbers that are subject to GR-2892 processing. Table TFSSCRN consists of the following fields:

1. In response to the TFSCODE prompt, type the toll-free code in use; for example, 800 or 877.
2. In response to the FROMNXX prompt, type the lower boundary of the range of the numbers belonging to GR-2892.
3. In response to the TONXX prompt, type the upper boundary of the range of the numbers belonging to GR-2892.

Table 441 on page 1080 provides sample datafill for table TFSSCRN.

> ***Note:*** In Table 441, the first two tuples illustrate six digit segregation between TR-533 and GR-2892 calls. The third tuple illustrates 3 digit segregation.

Table 441 Sample datafill from TFSSCRN

TFSCODE	FROMNXX	TONXX
800	822	999
877	622	999
866	000	999

51.2.2.5 Step 5: Verifying with TRAVER

TRAVER is enhanced to support table TFSSCRN. TRAVER displays table TFSSCRN content and simulates the path of an AIN call.

51.3 Engineering AIN toll-free service

Because AIN toll-free service and E800 (IN toll-free service) share common datafill and the early stages of call processing the engineering of E800 also affects AIN toll-free.

The office parameter NORTHAM_TOLLFREE_VARIANT in the OFCOPT table must be set to US_SERVICE to use AIN toll-free service. This parameter should not be changed by the operating company and should already be configured in any office using E800.

The office parameter NUM_OF_NSC_EXT_BLK in the OFCENG the should be provisioned using the following formula:

```
number of toll-free calls/sec x mean toll-free call
holding time
```

This is the same formula that is used for E800 but when both E800 and AIN toll-free service are used the numbers used should be the aggregate for both services. This number should be periodically readjusted when the amount of E800 and AIN toll-free traffic increases.

51.4 Sample datafill

The following are examples of datafill for tables TFSCRN, TRIGDIG and PODPATTR or TRIGITM, LINEATTR, XLAPLAN, and RATEAREA.

```
Table TFSSCRN:
800 811 999
```

```
Table TRIGDIG:
PODPDIG PODP 800811 PODP EVENT TCAP R02 SS7 AINBLUES
DFLT (POTUSE TFS) $

Table TRIGITM:
4 SDSTRIG1 SDS (DG 800811) $ ULK EVENT R02 SS7 GTT
(POTUSE TFS) (LARP 866 800_P811_866 L800_LATA1_866
NILC NILC) $

Table OFCTIID:
4 SDSTRIG1 ON

Table LINEATTR:
866 1FR NONE NT 0 10 NILSFC 0 NIL NIL 00 $
```

Table XLAPLAN:
800_P811_866 NSCR 613 P621 TSPS N $

Table RATEAREA:
L800_LATA1_866 NLCA NIL LATA1 $

Table PODPATTR:
800811 866 800_P811_866 L800_LATA1_866 NILC NILC

51.5 Sample TRAVER

The following figures illustrate a sample TRAVER based on the datafill samples in Section 51.4 “Sample datafill” on page 1080.

Figure 304 AIN TFS sample TRAVER as an end office

```
traver 1 6783420 18559999999 b
TABLE LINEATTR
HOST 00 0 00 06 0 DT STN RES 6783420 0 619_POT1_0 LPOT_L123_0 619 (3WC) $
TABLE LINEATTR
0 1FR NONE NT 0 0 NILSFC 0 NIL NIL 00 619_POT1_0 LPOT_L123_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
619_POT1_0 SPOT 619 POT1 RTE4 Y RES 0 0 $ $
TABLE RATEAREA
LPOT_L123_0 LPOT NIL L123 $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE IBNFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
```

Figure 304 AIN TFS sample TRAVER as an end office

```
TUPLE NOT FOUND
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFFTRIG
AIN Orig Attempt TDP: no subscribed trigger.
TABLE NCOS
RES 0 0 0 RES $
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
RES NXLA RESXLA RESFEAT 0 NDGT
TABLE DIGCOL
NDGT specified: digits collected individually
TABLE IBNXLA: XLANAME RESXLA
TUPLE NOT FOUND
Default from table XLANAME:
RESXLA
 (NET N N 0 N NDGT N N GEN ( LATTR 32 619_POT1_0 LPOT_L123_0)
 (EA NILC Y 0) $ $)$ 9
TABLE DIGCOL
NDGT specified: digits collected individually
TABLE LINEATTR
32 1FR NONE NT 0 0 NILSFC 0 NIL NIL 00 619_POT1_0 LPOT_L123_0 $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE XLAPLAN
619_POT1_0 SPOT 619 POT1 RTE4 Y RES 0 0 $ $
TABLE RATEAREA
LPOT_L123_0 LPOT NIL L123 $
TABLE STDPRTCT
POT1 ( 1) ( 0) 1
. SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
. 18 1910 N DD 1 NA
. SUBTABLE AMAPRT
. KEY NOT FOUND
. DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HPCPATTN
TUPLE NOT FOUND
TABLE HNPACONT
619 Y 201 8 ( 16) ( 1) ( 0) ( 0) 0 $
. SUBTABLE HNPACODE
. 855 855 NSC E800
TABLE TFSSCRN
855 999 999
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
TABLE LCASCRCN
619 LPOT ( 17) MNDT N N
. SUBTABLE LCASCR
. TUPLE NOT FOUND.  DEFAULT IS NON-LOCAL
```

Figure 304 AIN TFS sample TRAVER as an end office

```
TABLE PFXTREAT
MNDT DD N DD UNDT
TABLE CLSVSCRC
619 SPOT DD 2 N NONE ( 1)
. SUBTABLE CLSVSCR
. KEY NOT FOUND
TABLE LATAXLA
TUPLE NOT FOUND
ASSUMED TO BE DEFAULT INTRALATA, INTRASTATE, STD
AIN Info Collected TDP: no subscribed trigger.
TABLE TRIGGRP
OFFTRIG INFOANAL
. PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
.   . TABLE TRIGDIG
.   . PODPDIG PODP 855999 PODP EVENT TCAP R02 TCPIP 0 (POTUSE TFS) $
.   . TABLE PODPATTR
.   . TUPLE NOT FOUND
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information


+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++


AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information.


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

Figure 305 represents a sample TRAVER output for OZZCIC signaling at an Access Tandem.

Figure 305 Stage1: TRAVER TR <CLLI> 0ZZCIC b

```
traver tr isupitic 0240110 b
TABLE TRKGRP
ISUPITIC IT 63 ITTD NCRT IC NIL MIDL 613 E800 NSCR 613 000 N Y $
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE STDPRTCT
E800 ( 1) ( 0) 3
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
```

Figure 305 Stage1: TRAVER TR <CLLI> 0ZZCIC b (Continued)

```
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 0240110 0240110 SSP NP 7 7 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
LNP00100 SOC Option is IDLE.
AIN Info Collected TDP: no subscribed trigger.
TABLE FNPA7DIG
TUPLE NOT FOUND
TABLE TRIGGRP
OFCTRIGGRP_ALL INFOANAL
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
DP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 . LNP ( DG LNPDIG) ( ESCEA ) ( ESCOP ) ( ESCDN )$ NIL
Trigger AIN LNP is applicable to office.
AIN Info Analyzed TDP: trigger criteria not met.
+++ TRAVER: SUCCESSFUL CALL TRACE +++
+++ TRAVER: SUCCESSFUL CALL TRACE +++
```

Figure 306 represents a sample TRAVER output an AIN TFS query (PODP (TRIGGRP module) only at an Access Tandem.

Figure 306 Stage 2: TRAVER TR <CLLI> calledPartyID b

```
>traver tr isupitic 8776211335 b
TABLE TRKGRP
ISUPITIC IT 63 ITTD NCRT IC NIL MIDL 613 E800 NSCR 613 000 N Y $
TABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE STDPRTCT
E800 ( 1) ( 0) 3
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
 . 8 9 N NP 0 NA
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
TABLE HNPACONT
613 Y 999 1 ( 321) ( 1) ( 84) ( 0) 3 $
 . SUBTABLE HNPACODE
 . 877 877 NSC E800
TABLE TFSSCRN
877 621 621
LNP00100 SOC Option is IDLE.
```

Figure 306 Stage 2: TRAVER TR <CLLI> calledPartyID b (Continued)

```
LNP Info: Called DN is not resident.
LNP Info: HNPA results are used.
AIN Info Collected TDP: no subscribed trigger.
TABLE TRIGGRP
OFCTRIGGRP_ALL INFOANAL
 . N11 ( DG N11DIG)$ NIL
Trigger AIN N11 is applicable to office.
 . PODP ( DG PODPDIG)$ NIL
Trigger AIN PODP is applicable to office.
 .  . TABLE TRIGDIG
 .  . PODPDIG PODP 8776211335 PODP EVENT TCAP R02 SS7 AINPOP DFLT (POTUSE
TFS) $
 .  .  . TABLE C7GTTYPE
 .  .  . AINPOP ANSI7 15 $
 .  .  . TABLE C7GTT
 .  .  . AINPOP 8776211335 8776211335 PCSSN (SIMTOOL_RTESET SIMTOOL3 0) $
SSN
 .  . TABLE PODPATTR
 .  . TUPLE NOT FOUND
AIN Info Analyzed TDP: trigger criteria met.
Querying the database would occur now.
Use the AINMQG option to save the query to a file for use in TstQuery.
Use the AINRES option for further information
+++ AIN TRAVER: SUCCESSFUL CALL TRACE +++
```

51.6 Provisioning guidelines

The following changes in AIN switch provisioning are made to identify toll-free calls:

- table TFSSCRN is used
- option ‘POTUSE’ in existing table TRIGDIG or TRIGITM can be datafilled with the value TFS.

51.6.1 Table TFSSCRN

The TFSSCRN table is datafilled by the operating company with the ranges of the toll-free numbers which are to be the subject to GR-2892 processing. The table has the following fields:

- TFSCODE, which describes the toll-free code in use.
- FROMNXX, which describes the lower boundary of the range of the numbers belonging to GR-2892.
- TONXX, which describes the upper boundary of the range of the numbers belonging to GR-2892.

See Table 442 for an example of the TFSSCRN table.

Table 442 Sample TFSSCRN table

TFSCODE	FROMNXX	TONXX
800	822	999
877	622	999
866	000	999

In Table 440 on page 1076, the first two tuples illustrate six digit segregation between TR-533 and GR-2892 calls. The third tuple illustrate 3 digit segregation.

> **ATTENTION**
> All entries in table TFSSCRN must have at least one corresponding entry in table TRIGDIG or TRIGITM. Table TRIGDIG or TRIGITM must be datafilled first.

51.6.2 Table TRIGDIG or TRIGITM

Each number range requiring AIN Service Enablers' toll-free processing must be assigned to an SDS trigger in the TRIGDIG or TRIGITM table. Datafill table TRIGDIG when using the trigger group provisioning interface. Datafill table TRIGITM when using the trigger item provisioning interface.

In table TRIGDIG or TRIGITM, the SDS trigger supports a potential use (POTUSE) option field that allows query and response processing to be tailored to the service initiated by the AIN trigger. A new attribute for POTUSE is defined as "TFS".

Toll-free entries in TRIGDIG or TRIGITM must be identified by the operating company with POTUSE=TFS. This attribute can only be assigned for MSGSET=R02.

Examples of TRIGDIG or TRIGITM tuples supporting GR-2892 TFS follow:

```
TABLE TRIGDIG
PODPDIG PODP 800811 PODP EVENT TCAP R02 SS7 GTT DFLT
(POTUSE TFS)$
```

```
TABLE TRIGITM
4 SDSTRIG1 SDS DG 800811 $ ULK EVENT R02 SS7 GTT (POTUSE TFS)
(LARP 866 800_P811_866 L800_LATA1_866 NILC NILC) $
```

51.6.2.1 Adding and deleting data to tables TRIGDIG or TRIGITM and TFSSCRN

51.6.2.1.1 Adding data When writing to the tables TRIGDIG or TRIGITM and TFSSCRN, table TRIGDIG or TRIGITM must be datafilled first with POTUSE=TFS.

The following warning is issued:

```
> PLEASE_DATAFILL_TFSSCRN
```

When writing to the TFSSCRN table, the following warning is issued:

```
> ENSURE NUMBER RANGE IS DATAFILLED IN TABLE TRIGDIG
```
OR TRIGITM

51.6.2.1.2 Deleting data When deleting, the data in table TFSSCRN must be deleted first.

The following warning is issued from table TFSSCRN:

```
> THIS MAY CAUSE A LOSS OF SERVICE
> IF THE NUMBER RANGE IS NOT PROVISIONED TO USE E800
```
OR 800P

When deleting a tuple from table TRIGDIG or TRIGITM with POTUSE=TFS, table TFSSCRN is automatically checked to see when it contains the digit string. When it does not, the data is deleted.

When table TFSSCRN does contain the digit string, then the following warning is issued:

```
> TUPLE EXISTS IN TFSSCRN
> THIS MAY CAUSE LOSS OF TOLL FREE SERVICE
```

The data is then deleted without further warning. It is not blocked because there may be overlapping tuples in TRIGDIG or TRIGITM belonging to the same range in the TFSSCRN.

51.6.2.2 Failure path

When the toll-free service number subject to AIN processing is datafilled in the TFSSCRN table, but not in the TRIGDIG or TRIGITM table, the call is routed to treatment. Toll-free service uses HNPACONT.RTEREF route number 1 to route the call that is not datafilled in the TRIGDIG or TRIGITM table. We recommend datafilling HNPACONT.RTEREF as in Table 443.

However, even when the route is not datafilled in HNPACONT.RTEREF, the call is still routed to treatment.

Table 443 Recommended datafilling of HNPACONT.RTEREF

RTE	RTELST
1 (S	D VACT) $

51.6.2.3 TFSSCRN for Canadian 800 service

AIN TFS implementation for 800P is supported in this activity. Prior to this, table TFSSCRN could be datafilled in an 800P office but a warning used to be displayed as follows:

```
> TABLE TFSSCRN IS NOT USED BY 800P SERVICE.
```

In TRAVER, when the call hits TFSSCRN, the following message is displayed:

```
> Table TFSSCRN is checked for E800 calls only.
> TFSSCRN TUPLE NOT FOUND
```

51.6.3 Existing translations

All the toll-free codes are datafilled in HNPACONT.HNPACODE. Trunk originated calls use SSP selector in STDPRTCT.STDPRT as is shown in datafill example below (rather than using the NSC selector at pretranslation stage). This provided consistency. Hence, the NSC selector is always hit at the same place - HNPA table.

ATTENTION

Any new 8xx code must have the NSC selector assigned in table HNPA-CONT.HNPACODE. To use AIN Service Enablers' toll-free service, the SSP selector must be used instead of the NSC selector in table STD-PRTCT.STDPRT for equal access calls

Note: When the EA trunk is subscribed to a Shared Interoffice Trigger, the Service Enabler's toll-free service number range should be provisioned in the TRIGESC table to allow proper call processing.

A call originated from a feature group D equal access trunk arrives with the prefix 0ZZXXX where XXX=110 and indicates that the SSP function is needed. This prefix is stripped off during the pretranslation phase as follows:

```
TABLE STDPRTCT.STDPRT
077110 077110 SSP NP 6 6 NA
```

Further translations occurs in the HNPA table where NSC selector is hit as it is shown in the example.

```
TABLE HNPACONT.HNPACODE
800 800 NSC E800
888 888 NSC E800
877 877 NSC E800
```

Note that AMBI selector in HNPACODE table is used in a same manner as it is in use now for E800 calls. The corresponding tuples are datafilled as follows:

```
TABLE HNPACONT.HNPACODE
888 888 PFX DN 613621 NSC E800
877 877 TIM DN 613621 NSC E800
```

51.6.4 Bypassing screening on the routing number

Toll-free service must bypass screening based on the routing number returned by the SCP. To allow this, the customer must provide entries in tables PODPATTR and LINEATTR. Any 6-digit trigger in the TRIGDIG or TRIGITM table must have a corresponding tuple in the PODPATTR table.

Table PODPATTR provides post query processing for the SDS trigger based on the PODP number. When no entry exists in PODPATTR for the SDS DN, the originator's line attributes is used. The entry in table PODPATTR allows translations to pick up line attributes associated with the toll-free trigger rather than the originator. It contains a key into table LINEATTR, which contains the line attributes for the trigger. An example of a tuple in the PODPATTR table is shown in Figure 307.

Figure 307 Example of a tuple in the PODPATTR table

```
TABLE PODPATTR

KEY         LINEATTR       PIC      LPIC

888622      123            NILC     NILC $
```

The corresponding tuple in the LINEATTR table is shown in Figure 308.

Figure 308 Example of a tuple in the LINEATTR table

```
TABLE LINEATTR

123 1FR NONE NT NSCR 0 819 P622 NLCA NONE 11 NIL NILSFC NILLATA 0 NIL NIL 00 N$
```

These entries would be associated to an SDS trigger with digits 888622. By using the associated LINEATTR entry, translations bypasses Local Call Area screening (with entry NLCA for field LCANAME) and Class-of-Service screening (with entry NSCR for field SCRNCL). The NSCR and NLCA entries must be present to bypass screening.

51.6.4.1 Bypassing screening with a TRIGITM trigger

Toll-free service must bypass screening based on the originator's line attributes. To allow bypass screening for the trigger item provisioning interface, the customer must provide overriding line attributes. To provide overriding line attributes datafill the LARP option for the trigger and entries in tables LINEATTR, XLAPLAN, and RATEAREA.

The TRIGITM LARP option provides post-query processing for trigger SDS. The LARP option allows translations to pick up line attributes associated with the toll-free trigger rather than the originator's line attributes. The TRIGITM LARP option contains keys into tables LINEATTR, XLAPLAN, and RATEAREA that hold the line attributes for the trigger.

Figure 309 provides a sample tuple in table TRIGITM with the LARP option datafilled.

Figure 309 Sample tuple in table TRIGITM

```
TABLE TRIGITM
4 SDSTRIG2 SDS (DG 888622) $ ULK EVENT R02 SS7 AINJAZZ
(POTUSE TFS) (LARP 123 888_P622_123 L888_NILLA_123
NILC NILC) $
```

Figure 310 provides a corresponding sample tuple in table LINEATTR.

Figure 310 Sample tuple in table LINEATTR

```
TABLE LINEATTR
123 1FR NONE NT 0 11 NILSFC 0 NIL NIL 00 $
```

Figure 311 provides a sample tuple in table XLAPLAN.

Figure 311 Sample tuple in table XLAPLAN

```
TABLE XLAPLAN
888_P622_123 NSCR 888 P622 NONE N $
```

Figure 312 provides a corresponding sample tuple in table RATEAREA.

Figure 312 Sample tuple in table RATEAREA

```
TABLE XLAPLAN
888_P622_123 NSCR 888 P622 NONE N $
```

The entries in Figure 309 through Figure 312 are associated to an SDS trigger item. By using the associated LINEATTR, XLAPLAN, and RATEAREA entries, translations bypasses local call area screening (with entry NLCA for field LCANAME, in table RATEAREA) and class-of-service screening (with entry NSCR for field SCRNCL, in table XLAPLAN). The NSCR and NLCA entries must be present to bypass screening.

51.6.4.2 Bypassing screening with a TRIGGRP trigger

Toll-free service must bypass screening based on the originator's line attributes. To perform bypass screening for the trigger group provisioning interface, the customer must provide overriding line attributes by datafilling entries in tables PODPATTR, LINEATTR, XLAPLAN, and RATEAREA. Any 6-digit trigger used for toll-free service in table TRIGDIG must have a corresponding tuple in table PODPATTR.

Table PODPATTR provides post query processing for trigger SDS based on the SDS number. The entry in table PODPATTR allows translations to pick up line attributes associated with the toll-free trigger rather than the originator's line attributes. The entry in table PODPATTR contains keys into tables LINEATTR, XLAPLAN, and RATEAREA that hold the line attributes for the trigger.

Figure 313 on page 1091 provides a sample tuple in table PODPATTR.

Figure 313 Example of a tuple in table PODPATTR

```
TABLE PODPATTR
KEY LINEATTR XLAPLAN RATEAREA PIC LPIC
------------------------------------------------
888622 123 888_P622_123 L888_LATA1_123 NILC NILC
```

Figure 314 provides a corresponding sample tuple in table LINEATTR.

Figure 314 Example of a tuple in table LINEATTR

```
TABLE LINEATTR
123 1FR NONE NT 0 11 NILSFC 0 NIL NIL 00 $
```

Figure 315 provides a corresponding sample tuple in table XLAPLAN.

Figure 315 Example of a tuple in table XLAPLAN

```
TABLE XLAPLAN
888_P622_123 NSCR 888 P622 NONE N $
```

Figure 316 provides a corresponding sample tuple in table RATEAREA.

Figure 316 Example of a tuple in table RATEAREA

```
TABLE RATEAREA
L888_NILLA_123 NLCA NIL NILLATA $
```

These entries are associated to an SDS trigger with digits 888622. By using the associated LINEATTR, XLAPLAN, and RATEAREA entries, translations bypasses local call area screening (with entry NLCA for field LCANAME, in table RATEAREA) and class-of-service screening (with entry NSCR for field SCRNCL, in table XLAPLAN). The NSCR and NLCA entries must be present to bypass screening.

51.6.5 Additional datafilling for TOPS offices

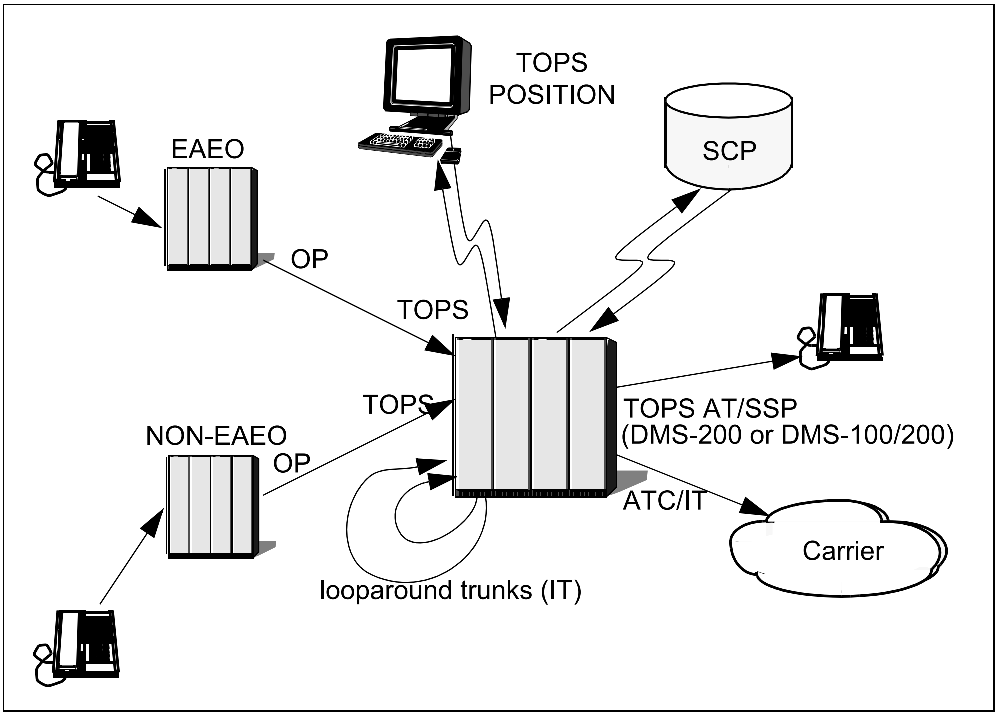
This section describes the additional datafilling steps required by TOPS offices to process AIN Service Enablers' toll-free calls.

The datafilling steps described in this section allow an operating company to route the following types of AIN Service Enablers' toll-free service to a TOPS access tandem SSP:

- plus-dialed (0+, 1+) calls
- zero-minus (0-) calls

These calls originate from a TOPS trunk and use AIN Service Enablers' toll-free service. See Figure 317 on page 1093.

Figure 317 Network model for TOPS support



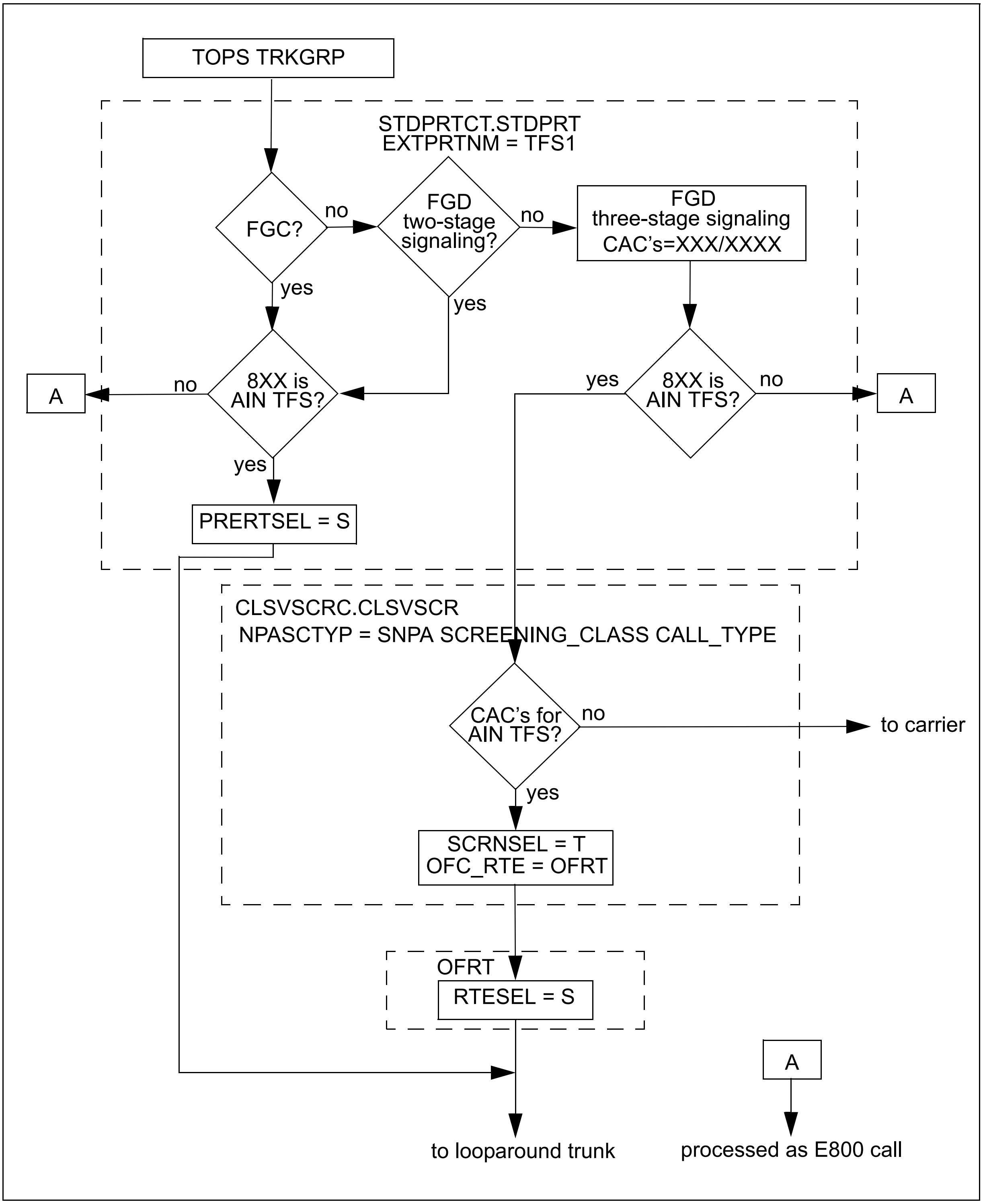
51.6.5.1 Plus-dialed calls

To process toll-free plus-dialed calls originating from a TOPS trunk group, the STDPRTC table must contain an external standard pretranslator subtable, for example TFS1, to separate E800/800P calls from AIN Service Enablers' toll-free calls. Figure 318 on page 1094 shows how calls are processed. In Figure 318, the subtable is called TFS1.

An E800/800P call goes through standard translation until it encounters an NSC tuple in the HNPA stage. For an AIN Service Enablers' toll-free call, the pretranslator route selector "S" is used to process the call directly to a looparound trunk. The lower and upper bound range of digits which has the "S" selector should be the same as the lower and upper bound range of digits datafilled in the TFSSCRN table. The looparound trunk must terminate at an AIN SSP.

A TOPS access tandem SSP accepts two types of signaling: FGC and FGD. FGC has two stages of signaling. FGD has either two or three stages of signaling. Also with FGC TOPS signaling, TOPS trunk groups always carry ANI and ANI-II information digits, therefore 00Y support is not required.

Figure 318 Plus-dialed call routing over a TOPS trunk



The following sections contain examples that show the translation of FGC and FGD signaling for an 866 toll-free code and for an 800 E800 code.

51.6.5.1.1 Tuples in pretranslation tables for FGC signaling The following example shows the tuples in the pretranslation tables to be able to process 866 toll-free codes and 800 E800 codes for FGC signaling (8XX+XXX+XXXX).

Example

```
TABLE STDPRTCT
  TFS1 ( 1) ( 0) 3
SUBTABLE STDPRT
  866 866 S DD 0 LOOP_AROUND_TRUNK 3 10 NONE
  800 800 N DD 0 NA
```

The 866 tuple in the STDPRT subtable is for AIN Service Enablers 866 toll-free service codes. The S selector is set to process the call as an AIN Service Enablers toll-free TOPS call. The field descriptions are as follows:

- DD: Type of call is a direct dial.
- 0: Number of prefix digits.
- LOOP_AROUND_TRUNK: name of outgoing trunk.
- 3: Minimum number of digits collected before routing the call.
- 10: Maximum number of digits collected before routing the call.

The 800 tuple in the STDPRT subtable is for E800 codes. The N selector is set to process the call as an E800 call. The field descriptions are as follows:

- DD: Type of call is a direct dial.
- 0: Number of prefix digits.
- NA: The translation is routed to national translation in subtable HNPACONT.HNPACODE.

51.6.5.1.2 Tuples in pretranslation tables for FGD signaling The following examples shows the tuples in the pretranslation tables to be able to process 866 toll-free codes and 800 E800 codes for FGD signaling.

When toll-free calls originate from a TOPS trunk with two-stage FGD signaling, the dialed number is processed the same as FGC signaling.

When toll-free calls originate from a TOPS trunk with three-stage FGD signaling, the calls arrive with either a 0ZZXXX prefix or a 0ZZXXXX prefix, where 0ZZ are the routing digits and XXX/XXXX is the carrier code.

All plus-dialed calls that require interLATA completion are assumed to be sent to TOPS with three-stage signaling and a carrier number included in the first stage.

The incoming trunk and the digit stages collected by TOPS are used in the TOPEATRK table to determine the intra or inter-screening class. The CLSVACRC table uses the SNPA, the screening class, the fact that the call is DD or OA, and the carrier code to determine the office route. The office route table, OFRT, is then used to determine the outgoing looparound trunk group.

In the following examples, 0ZZ=077, XXX=110, and XXXX=0110.

In first stage signaling, the TOPS receives the routing digits 077 and carrier code 110 or 0110. When the routing digits are a valid number, the TOPS sends a WINK to EAEO, and then waits for the second and third stages of the signal.

After receiving the second and third stages of the signal, translation proceeds to the TOPEATRK table to determine the intra or inter-screening class. See the following example.

Example

Datafill in the TOPEATRK table

```
TABLE TOPEATRK
   TOPSNSC CONFORM 0110 LATA1 DOM1 DOM1 SOVS 613 N
N $
```

The field descriptions are as follows:

- TOPSNSC: Incoming trunk group clli.
- CONFORM: End office conformation.
- 0110: Default carrier for the trunk.
- LATA1: LATA name.
- DOM1: Class of service name for intralata calls.
- DOM1: Class of service name for interlata calls.
- SOVS: Class of service name for overseas calls.
- 613: SNPA (Index into table CLSVSCRC).
- N: Don’t check table DNPIC.
- N: Don’t take a default carrier.

The datafill in the table TOPEATRK can proceed the translation in several direction as follows:

- When the AIN Service Enablers’ toll-free call is intralata or interlata and the class of service name is set to NSCR, meaning no screening has been requested from the TOPEATRK table, then the dialled number is processed the same as FGC.

- When the AIN Service Enablers' toll-free call is intralata or interlata and the class of service name is set to the screening class in the CLSVSCRC table (for example, DOM1), then the translation is routed to the CLSVSCRC table with the SNPA, the screening class, the type of call, and the carrier code to determine the index of table OFRT. See the following example.

Example

```
TABLE CLSVSCRC
   613 DOM1 DD 2 N NONE (1)
   TABLE CLSVSCR
      110 110 T OFRT 900
```

The translation is then routed to the OFRT table and then to the looparound trunk. See the following example.

Example

```
TABLE OFRT
   900 ( S D LOOP_AROUND_TRUNK ) $
```

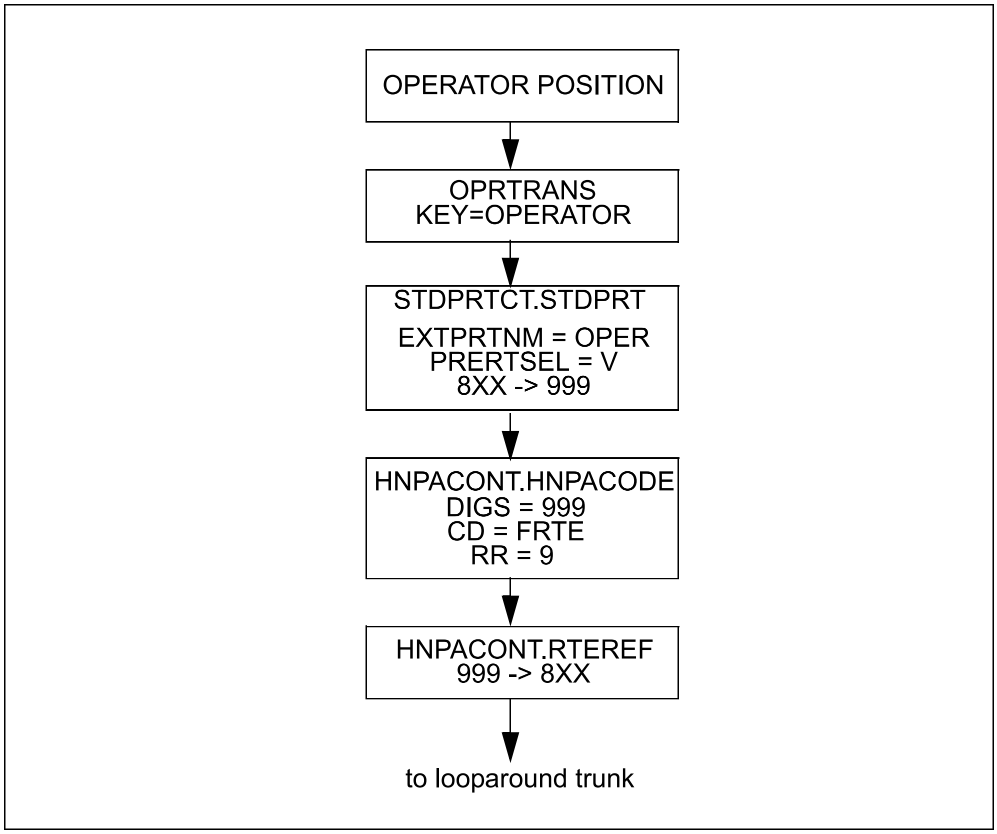
The field descriptions are as follows:

- 900: Route reference index.
- S: Route selector.
- D: Connection type.
- LOOP_AROUND_TRUNK: Replace with a real outgoing trunk name.

51.6.5.2 Zero-minus calls

By using the datafill presented in this section, a zero-minus call is routed through a looparound trunk, making it appear to the central office as though it originated on a supported trunk type. Processing then continues to the SDS trigger where AIN Service Enablers' toll-free service processing occurs. See Figure 319 on page 1098.

Figure 319 Zero-minus call routing for a TOPS trunk



When a zero-minus AIN toll-free call arrives at the TOPS access tandem SSP office, it is immediately directed to the operator. At the request of the caller, the operator enters the AIN toll-free number. The call returns to the access tandem SSP for translation as a toll-free call.

Because this is an operator-assisted call, the STDPRTCT table is indexed by the pretranslator name datafilled in the OPERATOR tuple of the OPRTRANS table instead of the pretranslator name datafilled against the originating agent. See below for an example.

Example

```
TABLE OPRTRANS
  OPERATOR 613 NSCR OPER L613
```

The field descriptions are as follows:

- NSCR: Class of service screening name.
- 613: Example of serving NPA.
- OPER: Pretranslator name.
- L613: Local call area screening name.

There is no direct interworking between TOPS and the SSP in this case for either AIN toll-free calls or E800 calls. Zero-minus AIN toll-free calls must be directed to a looparound trunk.

A conflict can exist between zero-minus calls and one-plus calls when they are directed to a looparound trunk with the STDPRTCT.STDPRT table. To avoid this conflict, the STDPRTCT.STDPRT table must temporarily change the 8XX prefix (where X can be 0, 2, 3, 4, 5, 6, 7, or 8) to otherwise unused prefix, for example 999. The specific prefix that can be used depends on local datafill.

Also, the pretranslator table selected by the OPERATOR tuple of the OPRTRANS table has the selector “V” which allows STDPRT to perform digit manipulation while allowing the call to proceed to the HNPACONT table. An example for the 866 toll-free code is shown below.

Example

```
TABLE STDPRTCT
   OPER ( 1) ( 0) 3
SUBTABLE STDPRT
   866 866 V 10 OA 3 N NA 999 10 OA 3 N NA 999
```

The field description are as follows:

- 10: Maximum number of digits.
- OA: Type of call is a operator assisted.
- 3: Number of prefix digits.
- N: Translation is routed to table HNPACODE.
- NA: The translation is routed to national translation in subtable HNPACONT.HNPACODE.
- 999: It replaces the 866 code to generate the number required for digit analysis in the national translation.

When using the “V” selector, you must use the FRTE selector in the HNPACODE table. See below for an example.

Example

```
TABLE HNPACONT.HNPACODE
   999 999 FRTE 9
```

Translation proceeds to subtable HNPACONT.RTEREF to select a looparound trunk from the route list. See below for an example

Example

```
TABLE HNPACONT.RTEREF
   9 (N D LOOP_AROUND_TRUNK 3 866 N)$
```

At this stage, the 999 temporary prefix is replaced with the original 866 code.

51.6.5.3 Generated billing records

By using the datafill described in Section 51.6.5.1 “Plus-dialed calls” on page 1093 and Section 51.6.5.2 “Zero-minus calls” on page 1097, two AMA records are generated: a false AMA record and a true AIN Service Enablers AMA record.

The false AMA record is generated before a call goes to the looparound trunk with structure code 001.

The true AIN Service Enablers AMA record has an output structure code 0220 in response. E800 AMA records are not affected by the data described in Section 51.6.5.1 “Plus-dialed calls” on page 1093 and Section 51.6.5.2 “Zero-minus calls” on page 1097.

52 Provisioning for post-response translations

The remaining chapters in this provisioning part of this document describe an analytical approach aimed at determining service switching point (SSP) datafill requirements for deployment of AIN Service Enablers. Its purpose is to assist in the deployment of AIN services on the SSP. The AIN SSP was first deployed in DMS-100 Family offices with batch change supplement 36 (BCS36).

Because switches are unique, it is sometimes difficult to describe specific datafill that must be added, deleted or modified. Section 52.1 “Unique switch and network configurations” on page 1102 describes the generic SSP.

Each table that must be modified for AIN Service Enablers response processing is described in its own chapter. In each chapter that describes a specific table, there is a subsection called “Recommended datafill for table *TableName* to support AIN Service Enablers response processing” that describes the data required for a generic service switching point (SSP).

A subsection called “Modifying generic TableName data for an office or AIN service” describes alterations of generic data when such are required to meet specific office needs.

Chapter 53: “Options for offices supporting only 7-digit dialing for home numbering plan” on page 1105 describes options for offices that support only 7-digit dialing for the home numbering plan.

52.1 Unique switch and network configurations

Each switch is unique in the telecommunication network because of one or more of the following factors:

- switch location within the network
  - public dialing plan (local/non-local)
  - carrier access based on LATA boundaries
  - outpulsing information to an adjacent switch
- Basic Business Group (BBG) customers
  - tailored private dialing plan to meet their needs
  - special access into the public dialing plan
- feature packages that are present on a switch; some features require datafill to enable the service
- flexibility of datafill; the DMS provides enough flexibility to customize specific functions by datafill according to operating company and end-user needs

For the purpose of this document, a generic service switching point (SSP) is assumed.

The characteristics of a generic SSP that is used in the examples in this document are as follows:

- The generic SSP is an equal-access end office (EAEO). An EAEO was selected because it requires more data than a tandem office. Tandem offices can also use this document because the data required is generally a subset of the EAEO data.
- The generic SSP supports calls from a network access point (NAP); that is, the generic SSP supports incoming public trunks using EAMF signaling or Transit Network Selection (TNS) for Signaling System Number 7 (SS7) facilities. This implies that the datafill is present to support 0ZZ XXX calls.
- The generic SSP does not have routing based on bearer capability (package NTX767 or NTX768). This assumption was made to simplify the datafill explanations. Bearer capability is detailed in sections on modification of generic SSP data.
- The generic SSP supports a variety of AIN services that allow all types of national and international calls in the AIN Service Enablers response, including operator and carrier calls. When the AIN services do not support all call types, the data for the unsupported call type is not required.
- The generic SSP supports the private lines and private trunks. Though not explicitly stated, the office also supports public lines and trunks.

- The generic SSP routes all public numbers in the public environment.
- The generic SSP supports triggering at an SDS trigger for all AIN Service Enablers supported agents.
- The generic SSP supports only one public dialing plan used in AIN Service Enablers response processing. The generic SSP does not span LATA boundaries.
- The generic SSP does not require class of service screening during AIN Service Enablers response processing.
- The generic SSP does not currently support dialing of the home numbering plan area (HNPA).
- The generic SSP supports 10-digit outpulsing of home numbering plan numbers. The network supports 10-digit dialing from public trunks.
- As of NA003, the SSP supports a 7-digit subscriber number in the CalledPartyID returned by the SCP, as well as national and international numbers in the CalledPartyID.

53 Options for offices supporting only 7-digit dialing for home numbering plan

The following chapter discusses options for offices that support only 7-digit dialing for home numbering plan.

53.1 Office options

Some offices do not currently support 10-digit dialing throughout their network. When the network cannot be altered to support 10-digit dialing for the home numbering plan, the following option is recommended.

Route HNPA calls from table STPRTCT to table OFRT as shown in Table 444 on page 1105. Since the RX selector may cause two different billing records to be generated (see Section 53.3 “Billing when using the RX selector” on page 1109 and Section 53.4 “Recommendation on datafilling table STDPRT for RX selector” on page 1110), it is necessary to have the right call type datafilled in table STDPRTCT; whereas the call type specified in the RX selector has to be NP (no prefix) so that only one billing record will be generated. See Section 53.4 “Recommendation on datafilling table STDPRT for RX selector” on page 1110 for more details on how STDPRT should be datafilled when RX selector is used. The example in Table 444 assumes that all home NPA (HNPA) calls are local calls.

Table 444 STDPRT entries

STDPRTCT	
NAT	(1) (1234) ... (national calls)
	Subtable STDPRT
	The following entry is required to select OFRT entry with RX selector. 613 613 T NP 0 OFRT 708 10 10 NONE

As a result, the OFRT table has an RX selector and an index to Table DIGMAN as shown in Table 445 on page 1106.

Note: When using the RX selector the call will bypass screening. To avoid this problem, use the set up recommendation shown in Section 53.4 “Recommendation on datafilling table STDPRT for RX selector” on page 1110.

Table 445 OFERT entries

RTE	RTELIST
708	RX 613 NP 200 0 $

Table DIGMAN removes the 3 HNPA digits as shown in Table 446.

Table 446 DIGMAN entries

DMIKEY	DMIDATA
200	(CL BEG)(REM 3)(CL BEG) $

Note: Retranslations begin in table HNPACONT. Only local HNPA 10-digit numbers are affected.

53.2 TRAVER using RX selector for local HNPA calls

This TRAVER example assumes the following:

- Originator: IBN line 6137226962
- Information received from the SCP
- Called Party ID = national number 6136221243

Table 447 TRAVER using RX selector for local HNPA calls

```
traver l 7226962 n cdn na 6136221243 ainres r01 ar b
Warning: Routing characteristics are present.
        Originator must be able to send in
        characteristics specified.
TABLE RTECHAR
 . NACALL (CDN NA $) $
TABLE KSETLINE
HOST 00 1 06 10 2 DN Y 7226962 CENTESN 0 0 613 (3WC) (MSB) $
TABLE DNATTRS
TUPLE NOT FOUND
TABLE DNGRPS
TUPLE NOT FOUND
TABLE KSETFEAT
TUPLE NOT FOUND
TABLE CUSTSTN
TUPLE NOT FOUNDTABLE OFCVAR
AIN_OFFICE_TRIGGRP OFCTRIGGRP_ALL
TABLE NCOS
CENTESN 0 0 0 CESN ( OHQ 0 TONE_OHQ) ( CBQ 0 3 N 2) ( ERWT ) ( ACR N)$
TABLE CUSTHEAD: CUSTGRP, PRELIMXLA, CUSTXLA, FEATXLA, VACTRMT, AND DIGCOL
CENTESN CESN CESN CUSTFEAT 0 CEN
```

Table 447 TRAVER using RX selector for local HNPA calls (Continued)

```
TABLE DIGCOL
CEN 7 COL S 1
TABLE XLAMAP
 . Tuple not found. Default is use original XLANAME.
NCOS PRELIM XLA name is NIL. Go to next XLA name.
TABLE XLAMAP
 . NACALL CESN ( XLA PUBXLA)$
TABLE IBNXLA: XLANAME PUBXLA
TUPLE NOT FOUND
DEFAULT FROM TABLE XLANAME:
PUBXLA
   (NET N N N 0 N NDGT N N GEN ( LATTR 500) (EA NILC Y 0) $ $)$ 9
TABLE DIGCOL
NDGT specified: digits collected individually
TABLE LINEATTR
500 IBN NONE NT FR01 0 613 P722 L613 TSPS 10 NIL NILSFC LATA1 0 NIL NIL 00
N $
LCABILL OFF - BILLING DONE ON BASIS OF CALLTYPE
TABLE PXLAMAP
 . NACALL P722 ( XLA NAT)$
TABLE STDPRTCT
NAT ( 1) ( 0) 0
 . SUBTABLE STDPRT
WARNING: CHANGES IN TABLE STDPRT MAY ALTER OFFICE
BILLING.  CALL TYPE DEFAULT IS NP.  PLEASE REFER TO
DOCUMENTATION.
  . 613 613 T NP 0 OFRT 708 3 15 NONE
TABLE TRIGGRP
OFCTRIGGRP_ALL INFOANAL
 . N11 ( DG N11DIG)$ NIL
 . PODP ( DG PODPDIG)$ NIL
AIN Info Analyzed TDP: trigger criteria not met.
 .  . TABLE OFRTMAP
 .  .  . Tuple not found. Default to old index.
 .  . TABLE OFRT
 .  .  708 RX 613 NP 200 0)$
 .  .  . TABLE DIGMAN
 .  .  .   200 (CL BEG)(REM 3)(CL BEG)
 .  .  . EXIT TABLE DIGMAN
 .  . EXIT TABLE OFRT
 . SUBTABLE AMAPRT
 . KEY NOT FOUND
 . DEFAULT VALUE IS:   NONE OVRNONE  N
OVERLAP CARRIER SELECTION (OCS) APPLIES
TABLE LATAXLA
TUPLE NOT FOUND
ASSUMED TO BE DEFAULT INTRALATA, INTRASTATE, STD
TABLE OCCINFO
ITT 0488 EAP Y Y Y Y Y N N N Y Y N LONG 14 FGRPC N N N N N N N N N N N N
```

Table 447 TRAVER using RX selector for local HNPA calls (Continued)

```
TABLE EASAC
TUPLE NOT FOUND

+++ TRAVER: SUCCESSFUL CALL TRACE +++


DIGIT TRANSLATION ROUTES

1 LINE             6136221243      ST

TREATMENT ROUTES.  TREATMENT IS: GNCT
1 *OFLO
2 LKOUT

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

53.3 Billing when using the RX selector

The billing records may be affected by using the RX selector. This section describes some of the billing interactions with the RX selector and with AIN billing information that is received from the SCP. Billing interaction depends on datafill, as shown in Table 448 through Table 450 on page 1110.

Table 448 AIN billing only

Datafill	Records produced
TABLE STDPRTCT NAT (1) (0) 0 . SUBTABLE STDPRT . 613 613 T NP 0 OFRT 708 3 15 NONE	Structure Code = 220 Call Code = 47
TABLE OFRT 708 RX 613 NP 200 0$	NONE

Table 449 Billing a local number before the RX selector

Datafill	Records produced
TABLE STDPRTCT NAT (1) (0) 0 . SUBTABLE STDPRT . 613 613 T DD 0 OFRT 708 3 15 NONE	Structure Code = 220 Call Code = 06
TABLE OFRT 708 RX 613 NP 200 0$	NONE

Table 450 Billing a call before and after the RX selector

Datafill	Record s produced
TABLE STDPRTCT NAT (1) (0) 0 . SUBTABLE STDPRT . 613 613 T DD 0 OFRT 708 3 15 NONE	Structure Code = 220 Call Code = 06
TABLE OFRT 708 RX 613 DD 200 0)$	Structure Code = 500 Call Code = 06

Table 451 Billing a call after the RX selector

Datafill	Records produced
TABLE STDPRTCT NAT (1) (0) 0 . SUBTABLE STDPRT . 613 613 T NP 0 OFRT 708 3 15 NONE	Structure Code = 220 Call Code = 47
TABLE OFRT 708 RX 613 DD 200 0$	Structure Code = 500 Call Code = 06

Note: Two billing records for the same call will be generated when the translation is set up so that the call is billed before and after the RX selector is hit (that is, the call type specified in table STDPRT and the RX selector are both DD).

53.4 Recommendation on datafilling table STDPRT for RX selector

As specified in the previous section, using the RX selector may result in two billing records being produced for the same call. This section takes a detailed look at how this situation can be avoided so that only one billing record will be produced for every billable call.

In order to produce only one billing record, the call type specified in the RX selector must be NP (no prefix), as shown in Table 452. When DD is specified in the RX selector, two billing records will be generated.

Table 452 OFERT entries

RTE	RTELIST
708	RX 613 NP 200 0 $

The datafill in table STDPRTCT and subtable STDPRT will determine whether the call should be billable or not, so that correct billing information will be applied to the call.

Using the previous home NPA (613), assume that some of the office codes within the 613 area code are now billable. Table 453 provides an example for datafilling table STDPRT to obtain correct billing information for home NPA calls.

Table 453 STDPRT entries

STDPRTCT	
NAT	(1) (1234) ... (national calls)
	Subtable STDPRT
	The following entry is required to select OFRT entry with the RX selector. 613201 613212 T DD 0 OFRT 708 10 10 NONE 613213 6133 T NP 0 OFRT 708 10 10 NONE 61340 61346 T DD 0 OFRT 708 10 10 NONE 61347 6139 T NP 0 OFRT 708 10 10 NONE
Note: In this example the office codes from 201 to 212 and from 400 to 469 identify long-distance calls. The rest of the office codes identify local calls.	

54 AIN O_CPB and O_NOA trigger screening

54.1 Overview

The AIN O_CPB and O_NOA trigger screening (OTS) feature supports only the AIN trigger item data model. Trigger items were introduced on the DMS-100 platform in NA009, as part of the AIN evolution plan to comply with Bellcore requirements.

The OTS functionality allows the operating company to escape triggers O_CPB and O_NOA when the call has any one of the following characteristics:

- the carrier of the call is specified in a list of carriers
- the call is operator assisted
- the call is intraLATA toll or interLATA toll
- the call is international (IDDD)
- the call is originated from a coin line
- the called DN is specified in a list of DNs
- the call is directory assisted
- the originating line is not eligible to Messaging features
- the originating line is not eligible to Messaging Service features
- the call is redirected
- the ACB feature cannot be activated on the call
- deny dial pulse digit collection during a Send_To_Resource

The OTS feature also allows the operating company to:

- deactivate the O_CPB and O_NOA triggers permanently on the line through an access code or a line option
- deactivate the O_CPB and O_NOA triggers for the duration of the call through an access code

- assign trigger items on a customer group basis
- deny dial pulse digit collection during a Send_To_Resource

The OTS feature supports only the AIN Trigger item data model. Trigger items were introduced on the DMS platform in NA009 as part of the AIN evolution plan to comply to Bellcore requirements.

54.2 Feature description

This section provides a functional description of the OTS feature which includes:

- assigning trigger items on a customer group basis
- screening triggers based on trigger escape criteria
- deactivating the O_CPB and O_NOA triggers on a per-call basis
- deactivating the O_CPB and O_NOA triggers permanently on a line
- deny dial pulse digit collection during a Send_To_Resource

See Section 10.17 “Table TRIGITM” on page 386 for relevant information on table TRIGITM.

54.2.1 Assigning trigger items on a customer group basis

This functionality allows trigger items to be assigned on a customer group basis for the O_CPB, O_NOA, AFR and CDP triggers. The O_CPB, O_NOA and CDP triggers are supported for the first time by trigger items while the AFR trigger, already supported by trigger items in the previous release, is now extended to support customer group subscription.

Subscription to trigger items on a customer group basis is achieved in two steps:

- datafill links between trigger items and the desired customer group in table CUSTTIID. A tuple in table CUSTTIID is composed of a customer group name (taken from table CUSTENG), a trigger item identifier (taken from table TRIGITM) and an activation field.
- datafill the AIN option in table CUSTSTN for the desired customer group and setting the AINGRP subfield to TIID, a reserved trigger group name that acts as an interface selector

Note that users can now select the trigger subscription method (trigger group in the old data model or trigger item in the new data model) for each customer group, a customer group cannot subscribe to a trigger group and a trigger item at the same time. However, the two subscription methods can be used for the same subscriber as long as they apply to a different subscription level. For example, an end-user could subscribe to a trigger item through its customer group and to a trigger group through the AINDN option in SERVORD. See

Figure 320 on page 1115 for a datafill example to assign the ONOA1 trigger item to the RESG001 customer group.

Figure 320 Customer group subscription to trigger items

```
TABLE: TRIGITM

TDP TINAME TRIGGER TRIGDATA CRITERIA STATE ACTION SLHR OPTIONS
-------------------------------------------------------------
-
33 ONOA1 ONOA $ ULK EVENT R02 SS7 AINJAZZ $


TABLE: CUSTTIID

CUSTNAME TIID SUBSCRIPTION
--------------------------
RESG001 33 ONOA1 ON


TABLE: CUSTSTN

CUSTNAME OPTNAME OPTION
-----------------------
RESG001 AIN TIID
```

54.2.2 Screening triggers based on trigger escape criteria

The OTS feature limits the number of queries launched by the O_CPB and O_NOA triggers by performing the following types of screening:

- carrier screening (ESCCARR)
- operator assisted call screening (ESCOP)
- intraLATA and interLATA call screening (ESCLATA)
- international call screening (ESCIDDD)
- coin line screening (ESCCN)
- called DN screening (ESCCDN)
- ICS activation feature screening (ESCFI)
- AMSG activation feature screening (ESCFI)
- redirecting feature screening (ESCFI)
- ACB feature screening (ESCFI)
- directory assistance screening (ESCCDN)
- DP origination screening (ESCDP)

The OTS screening is performed when escape criteria are present in table TRIGITM. When a call meets one of the escape criteria, the SCP is not queried.

54.2.2.1 Carrier screening

Carrier screening is achieved by entering the ESCCARR NOINCASA criteria in table TRIGITM. When ESCCARR NOINCASA is assigned to a trigger item, the carrier for the current call is looked up in table OCCINFO to verify the setting of field INCASA (IN-CAll Service Activation). When field INCASA is set to Y, the SCP is queried.

When set to N, the SCP is not queried.See Figure 321 for a datafill example where the SCP is not queried for the O_CPB and O_NOA triggers when the carrier is BELL4.

Figure 321 Carrier screening sample datafill

```
TABLE: TRIGITM

TDP TINAME TRIGGER TRIGDATA CRITERIA STATE ACTION SLHR OPTIONS
--------------------------------------------------------------
33 ONOA1 ONOA (ESCCARR NOINCASA) $ ULK EVENT R02 SS7 AINJAZZ $
19 OCPB1 OCPB (ESCCARR NOINCASA) $ ULK EVENT R02 SS7 AINJAZZ $


TABLE: OCCINFO

CARRNAME CARRNUM ACCESS ORIGCARR INTER INTNTL INTRA ANI FANI ONISCRN AD1
OVERLAP INTERS INTRAS TERMREC OCCSEPNO OPSIG PICIND NOA950 INCCPN DTMFIND
OPSERV CACBLOCK CTDOA CMCMON SCRNWATS CRMCRA ATPINCL INTRAOPR INCASA
INTRCOIN ARBLKPVT
-------------------------------------------------------------------------
BELL2 0202 EAP Y Y Y Y N N N N Y Y N LONG 0 FGRPD N N Y N N N N N N N N
N Y N Y

BELL4 0204 EAP Y Y Y Y N N N N Y Y N LONG 0 FGRPD N N Y N N N N N N N N N

N N Y
```

54.2.2.2 Operator assisted call screening

Operator assisted call screening is achieved by entering ESCOP criteria in table TRIGITM. When ESCOP is assigned to a trigger item, operator assisted calls (for example, 0+ or 0- calls) do not query the SCP when the O_CPB and O_NOA triggers are hit.

Figure 322 on page 1117 shows a sample of the datafill required to prevent queries to the SCP for operator assisted calls when the O_CPB and O_NOA triggers are hit.

Figure 322 Operator assisted call screening sample datafill

```
TABLE: TRIGITM

TDP TINAME TRIGGER TRIGDATA CRITERIA STATE ACTION SLHR OPTIONS
--------------------------------------------------------------
-
33 ONOA1 ONOA (ESCOP ) $ ULK EVENT R02 SS7 AINJAZZ $

19 OCPB1 OCPB (ESCOP ) $ ULK EVENT R02 SS7 AINJAZZ $
```

54.2.2.3 IntraLATA and InterLATA Call screening

IntraLATA and InterLATA call screening is achieved by entering the ESCLATA criteria in table TRIGITM. When adding this criteria to a trigger item, the craft person must set the INTRATOL and INTERTOL parameters. When the INTRATOL parameter of the ESCLATA criterion is set to Y, the SCP is not queried when the call is intraLATA toll. Likewise, when the INTERTOL parameter is set to Y, the SCP is not queried when the call is interLATA toll.

Table 454 summarizes intraLATA and interLATA call screening

Table 454 IntraLATA and interLATA call screening

Value of the ESCLATA parameters		Result
INTRATOL	INTERTOL	
N	N	ESCLATA has no action
N	Y	SCP not queried on interLATA toll calls
Y	N	SCP not queried on intraLATA toll calls
Y	Y	SCP not queried on intraLATA and interLATA toll calls

Figure 323 shows a sample of the datafill required to prevent queries to the SCP on interLATA calls when the O_CPB and O_NOA triggers are hit

Figure 323 InterLATA call screening sample datafill

```
TABLE: TRIGITM

TDP TINAME TRIGGER TRIGDATA CRITERIA STATE ACTION SLHR OPTIONS
--------------------------------------------------------------
--
33 ONOA1 ONOA (ESCLATA N Y ) $ ULK EVENT R02 SS7 AINJAZZ $
19 OCPB1 OCPB (ESCLATA N Y ) $ ULK EVENT R02 SS7 AINJAZZ $
```

54.2.2.4 International call screening

International call screening is achieved by entering the ESCIDDD criteria in table TRIGITM. When ESCIDDD is assigned to a trigger item, international calls (for example, a 011+ call) do not query the SCP when the O_CPB and O_NOA triggers are hit.

Note that international call screening is not performed on the dialed digits. The O_CPB and O_NOA triggers will be escaped only when the call is determined to be international through routing tables. Figure 324 show a sample of the datafill required to prevent queries to the SCP for international calls when the O_CPB and O_NOA triggers are hit.

Figure 324 International call screening sample datafill

```
TABLE: TRIGITM

TDP TINAME TRIGGER TRIGDATA CRITERIA STATE ACTION SLHR OPTIONS
--------------------------------------------------------------
--
33 ONOA1 ONOA (ESCIDDD ) $ ULK EVENT R02 SS7 AINJAZZ $

19 OCPB1 OCPB (ESCIDDD ) $ ULK EVENT R02 SS7 AINJAZZ $
```

54.2.2.5 Coin line screening

Coin line screening is achieved by entering the ESCCN criteria in table TRIGITM. When ESCCN is assigned to a trigger item and the call is originated by a coin line with the CCF, CDF or CSP line class code, the SCP is not queried.

In response to the ESCCN prompt, the craft person can optionally enter a coin-originated call type. Adding this call type will restrict which coin-originated call types will trigger. ESCCN supports the following call types (or a combination of them):

- direct dialed calls (DD)
- operator assisted calls (OA)
- no prefix local calls (NP).

Figure 325 shows a datafill example where the SCP is not queried for the O_CPB and O_NOA triggers when the originating agent is a coin line.

Figure 325 Coin line screening sample datafill

```
TABLE: TRIGITM

TDP TINAME TRIGGER TRIGDATA CRITERIA STATE ACTION SLHR OPTIONS
--------------------------------------------------------------
--
33 ONOA1 ONOA (ESCCN DD) $ ULK EVENT R02 SS7 AINJAZZ $
19 OCPB1 OCPB (ESCCN DD) $ ULK EVENT R02 SS7 AINJAZZ $
```

54.2.2.6 Called DN screening

Called DN screening is achieved in two steps:

- datafill in table TIESCDIG a set of digit patterns for which the O_CPB and O_NOA triggers are escaped. Digit patterns are entered one per tuple with an escape group name.
- datafill the ESCCDN criteria in table TRIGITM with an escape group name

When ESCCDN is assigned to a trigger item and the called DN matches a digit pattern in table TIESCDIG, the SCP is not queried.

The called DN screening is based on a 10-digit public north american dial plan (NPA-NXX-XXXX). The supported types of dial plan are NET, DOD (Direct Outward Dialing), GEN and outwats (OWT). When a 3-digit escape group is entered in table TIESCDIG, these digits are assumed to be the NPA of the dialed number. Similarly, when a 6-digit escape group is entered, these digits are assumed to be the NPA-NXX of the called DN. When 7 digits are dialed, the NPA of the called DN is obtained from table FNPA7DIG. Table FNPA7DIG allows an operating company to specify the NPA of a 7-digit dialing plan. It is datafilled against the originator’s NPA and the dialed NXX.

Figure 326 show a datafill example where the SCP is not queried for the O_CPB and O_NOA triggers when the called DN matches a digit pattern in table TIESCDIG. In this example, called number with NPA 819 and NPA-NXX of 613-620 or 613-626 would escape the O_CPB and O_NOA triggers.

Figure 326 Called DN screening sample datafill

```
TABLE: TIESCDIG

ESCGRP ESCDIGS
--------------
CRIT1 819
CRIT1 613620
CRIT1 613626


TABLE: TRIGITM

TDP TINAME TRIGGER TRIGDATA CRITERIA STATE ACTION SLHR OPTIONS
-------------------------------------------------------------
33 ONOA1 ONOA (ESCCDN CRIT1 ) $ ULK EVENT R02 SS7 AINJAZZ $
19 OCPB1 OCPB (ESCCDN CRIT1 ) $ ULK EVENT R02 SS7 AINJAZZ $
```

54.2.2.7 ICS activation feature screening

ICS activation feature screening is achieved by entering the ESCFI ICS criteria in table TRIGITM. When ESCFI ICS is assigned to a trigger item and either the ICSDEACT (In Call Service Activation Deactivated) or SDSDENY line options are assigned on the originating agent, the SCP is not queried when the O_CPB and O_NOA triggers are hit.

Figure 327 shows a sample of the datafill required to prevent queries to the SCP for originating agents with the ICSDEACT or SDSDENY line option when the O_CPB and O_NOA triggers are hit.

54.2.2.8 AMSG activation feature screening

AMSG activation feature screening is achieved by entering the ESCFI AMSG criteria in table TRIGITM. When ESCFI AMSG is assigned to a trigger item and either the MSGDEACT or AMSGDENY line options are assigned on the originating agent, the SCP is not queried when O_CPB and O_NOA triggers are hit.

Figure 327 shows a sample of the datafill required to prevent queries to the SCP for originating agents with the MSGDEACT or AMSGDENY line option when O_CPB and O_NOA triggers are hit.

Figure 327 Originating line eligibility to ICS activation screening sample datafill

```
TABLE: TRIGITM

TDP TINAME TRIGGER TRIGDATA CRITERIA STATE ACTION SLHR OPTIONS
-------------------------------------------------------------
19 OCPB1 OCPB (ESCFI ICS $ ) $ ULK EVENT R02 SS7 AINJAZZ $
```

54.2.2.9 Redirecting features screening

Since AIN blocks redirecting agents from triggering, the escape criteria ESCFI REDIR has no effect.

54.2.2.10 ACB feature screening

ACB feature screening is achieved by entering the ESCFI ACBFAIL criteria in table TRIGITM for each trigger item. When ESCFI ACBFAIL is assigned to a trigger item, and any one of the following conditions is met, the SCP is not queried for calls that hit O_CPB and O_NoA triggers:

- ACB is not available on the line.
- The DN in the outgoing call memory block (OCMB) of the originating agent is invalid. A DN is marked as invalid in the OCMB when a trigger is hit and an Analyze_Route response is returned by the SCP that redirects the call (changes the CalledParty DN or CollectedAddressInfo parameters) and the ACB SOC option is ON. When the SOC option is idle, the Analyze_Route response has no affect.
- Trigger O_CPB is encountered and the originator receives a release cause other than User Busy. This assumes that the call is intra-office or inter-office with full SS7 connectivity. For example, a Call Rejected release cause will be received by the originator when the called party is subscribed to a feature such as Denied Termination (DTM) or Selective Call Rejection (SCRJ).

Figure 328 shows a sample of the datafill required to prevent queries to the SCP for calls that cannot activate ACB when O_CPB and O_NoA triggers are hit.

Figure 328 ACB feature screening sample datafill

```
TABLE: TRIGITM

TDP TINAME TRIGGER TRIGDATA CRITERIA STATE ACTION SLHR OPTIONS
---------------------------------------------------------------

19 OCPB1 OCPB (ESCFI ACBFAIL $ ) $ ULK EVENT R02 SS7 AINJAZZ $

33 ONOA1 ONOA (ESCFI ACBFAIL $ ) $ ULK EVENT R02 SS7 AINJAZZ $
```

54.2.2.11 Directory assistance call screening

Directory assistance call screening is achieved by datafilling the ESCCDN criteria:

- Datafill table TIESCDIG with a set of NPA-555-XXXX numbers for which the O_CPB and O_NOA triggers are escaped. Digit patterns are entered one per tuple with an escape group name.
- Datafill the ESCCDN criteria in table TRIGITM with an escape group name.

  When ESCCDN is assigned to a trigger item and the called DN matches a digit pattern in table TIESCDIG, the SCP is not queried. The called DN refers to the called DN that is in effect when the call is Busy or Not Answered, not the original called DN.

  Note that when the ESCLATA INTERTOLL criteria is datafilled, only the NPA-555-XXXX DN inside the LATA needs to be datafilled. The NPA-555-XXXX DN outside the LATA will be screened by the ESCLATA INTERTOLL criteria.

  Figure 329 shows a sample of the datafill required to prevent queries to the SCP for directory assisted calls when O_CPB and O_NOA triggers are hit.

Figure 329 Directory assistance call screening sample datafill

```
TABLE: TIESCDIG

ESCGRP ESCDIGS
--------------
CRIT1 8195551212
CRIT1 6135551212
CRIT1 5145551212


TABLE: TRIGITM

TDP TINAME TRIGGER TRIGDATA CRITERIA STATE ACTION SLHR OPTIONS
--------------------------------------------------------------
33 ONOA1 ONOA (ESCCDN CRIT1 ) $ ULK EVENT R02 SS7 AINJAZZ $
19 OCPB1 OCPB (ESCCDN CRIT1 ) $ ULK EVENT R02 SS7 AINJAZZ $
```

54.2.2.12 DP origination screening

DP origination screening is achieved by entering the ESCDP criteria in table TRIGITM. When ESCDP is assigned to a trigger item and the call is originated by a dial pulse set, the SCP is not queried when the O_CPB and O_NOA triggers are hit.

Figure 330 shows a datafill example where the SCP is not queried for the O_CPB and O_NOA triggers when the originating agent is a DP set

Figure 330 DP Line Screening sample datafill

```
TABLE: TRIGITM

TDP TINAME TRIGGER TRIGDATA CRITERIA STATE ACTION SLHR OPTIONS
-------------------------------------------------------------
--
33 ONOA1 ONOA (ESCDP ) $ ULK EVENT R02 SS7 AINJAZZ $
19 OCPB1 OCPB (ESCDP ) $ ULK EVENT R02 SS7 AINJAZZ $
```

54.2.3 Deactivating the O_CPB and O_NOA triggers on a per-call basis

The end user can deactivate the O_CPB and O_NOA triggers for the current call by dialing the CISA (Cancel ISA) access code (typically *03) prior to dialing the called DN. CISA allows the end user to deactivate the offer of services provided by the O_CPB and O_NOA triggers for the duration of a call. It is datafilled on a feature translator basis in table IBNXLA.

To deactivate the O_CPB and O_NOA triggers on a per-call basis:

1. User goes off-hook
2. User hears the dial tone
3. User dial "*03"
4. User obtains the confirmation tone followed by the standard dial tone. The user can then dial the DN of a terminating party and the O_CPB and O_NOA triggers won't query for this call.

The O_CPB and O_NOA triggers can also be deactivated on the second leg of a three-way call (3WC and U3WC), assuming that the user has access to 3WC. The sequence is:

1. User is in talking state with the first party
2. User flashes the switch hook
3. User hears a special dial tone
4. User dial "*03"
5. User obtains the confirmation tone followed by the standard dial tone. The user can then dial the DN of a the second party and the O_CPB and O_NOA triggers will not query on this leg.

Deactivation of the O_CPB and O_NOA triggers on a per-call basis is not supported on the consultation leg of a conference call (for example, Flexible Calling, Conference Call). When an end user attempts to deactivate the O_CPB and O_NOA triggers on the consultation leg of a conference call, the end user is routed to the NACK (Negative ACKnowledgment) treatment.

When the end user dials “*03” twice, the O_CPB and O_NOA triggers remain deactivated for the current call.

54.2.4 Deactivating triggers O_CPB and O_NOA permanently on a line

Deactivating the O_CPB and O_NOA triggers permanently on a line can be done by the operating company through a line option, or by the end user through an access code.

54.2.4.1 Line option

To deactivate O_CPB and O_NOA triggers permanently on a line, the operating company has the following choices: either enter the ESCFI ICS criteria in table TRIGITM and assign the SDSDENY option to the line or enter the ESCFI AMSG criteria and assign the AMSGDENY option to the line.

For further information on the ESCFI ICS or ESCFI AMSG datafill, refer to Section 54.2.2.7 , “ICS activation feature screening,” on page 1120 or Section 54.2.2.8 , “AMSG activation feature screening,” on page 1120.

54.2.4.2 Access code

To deactivate the O_CPB and O_NOA triggers for an undefined period of time on a line, the end user dials either the (In Call Service Control) access code (typically *02) or the MSGCTRL access code. Dialing the ICSCTRL access code automatically adds ICSDEACT to the line, while dialing the MSGCTRL access code automatically adds MSGDEACT to the line. Once the end user has dialed the access code, she/he is routed to treatment confirming that O_CPB and O_NOA triggers have been deactivated. As for the permanent deactivation of O_CPB and O_NOA triggers through a line option, the ESCFI ICS and/or ESCFI AMSG criterion must be datafilled in table TRIGITM.

To reactivate the O_CPB and O_NOA triggers on the line, the end user enters the access code again. Reentering the access code removes the ICSDEACT/MSGDEACT line option from the line.

Note that the ICSDEACT and MSGDEACT line options can be added manually to the line using SERVORD.

The sequence to deactivate the O_CPB and O_NOA triggers permanently through the ICSCTRL access code is as follows:

1. The ESCFI ICS escape criterion has been correctly datafilled.
2. User goes off-hook.
3. User hears dial tone.
4. User dials ICSCTRL access code.
5. User is routed to a treatment, which informs that the O_CPB and O_NOA triggers have been deactivated on the line. The O_CPB and O_NOA

triggers are deactivated until being re-activated. To reactivate the O_CPB and O_NOA triggers, the user must dial the ICSCTRL access code again.

A similar sequence is used to deactivate the O_CPB and O_NOA triggers permanently through the MSGCTRL access code.

With the ICSDEACT and MSGDEACT line options, the O_CPB and O_NOA triggers are escaped on the second leg (or consultation leg) of calls with conference features (such as 3WC, U3WC, CNF or CFX). However, the end-user is not allowed to dial the access code on the second leg of a conference call to deactivate or to reactivate the O_CPB and O_NOA triggers. End-users who try to dial the access code on the second leg are routed to the NACK (Negative ACKnowledgment) treatment.

For more information on ICSDEACT and MSGDEACT, refer to “EBCR and MSA Repackaging”: AJ4122 and “Service Offering Decoupling of SDS”: AJ5115.

54.2.4.3 Denying dial pulse digit collection during a Send_To_Resource

The response Send_To_Resource is an off-board processor-to-SSP message that can be received at any trigger detection point (TDP). It directs the SSP to connect the calling party to a resource (such as an announcement or a tone) either on the SSP itself or on an Intelligent Peripheral (IP).

The Send_To_Resource message can include a request to collect digits from the calling party. The digits are collected after the announcement or tone is played (or interrupted by the user) and reported back to the off-board processor.

The OTS feature has modified the AIN software to deny dial pulse digit collection during a Send_To_Resource. When dial pulse digits are collected from the calling party during a Send_To_Resource, the digits are ignored and a Resource_Clear message is sent to the SCP with a clear cause “Invalid_Caller_Response”. Dial tone digits are processed as usual by the Send_To_Resource software.

54.2.5 Data schema

The OTS feature introduces the new tables TIESCDIG and CUSTTIID and modifies table TRIGITM. Table TIESCDIG is used to define digit patterns for which a trigger item is escaped. Table CUSTTIID is used to assign a trigger item to a customer group. TRIGITM is modified to support more triggers and more trigger escape criteria. See Chapter 10: “Data schema” on page 319.

54.2.6 Software optionality control

The activation of the O_CPB and O_NOA trigger screening (OTS) feature is controlled by Software Optionality Control (SOC). The default SOC state of the feature is IDLE. In the IDLE state, the new trigger escape criteria introduced by OTS are disable, but can still be provisioned. In the ON state, the new trigger escape criteria are fully functional.

Assigning trigger items on a customer group basis can be done independently of the OTS SOC state, except for the O_CPB and O_NOA triggers. In the IDLE state, O_CPB and O_NOA triggers that are assigned to customer groups in table CUSTTIID are disabled, even when the TRIGACT field is set to ON. When the SOC state is set to ON, the O_CPB and O_NOA triggers are active.

Assigning trigger items on a customer group basis for other triggers than O_CPB and O_NOA is supported in both the IDLE and ON state.

The OTS feature is deployed through SOC under option AIN00242 and depends on Service Enablers R4 (AIN00240). To be allowed to activate the OTS feature by changing the feature's SOC state to ON, the right to use (RTU) for OTS must have been set. Table 455 summarizes the OTS SOC functionality

Table 455 OTS SOC functionality

OTS Component	Controlled by option AIN00242
Subscription to trigger items on a customer group basis	Yes (Only O_CPB and O_NOA triggers)
ESCCARR, ESCIDDD, ESCCN, ESCCDN, ESCLATA, ESCOP and ESCFI trigger escape criteria	YES
Deactivation of the O_CPB and O_NOA triggers on a per-call basis	No
Permanent deactivation of the O_CPB and O_NOA triggers on a line	YES (Through ESCFI ICS escape criteria)
Denial of dial-pulse digit collection during a Send_To_Resource	No

54.2.7 Screening flow diagram

Figure 331 is a flowchart example of the screening logic of the OTS feature

Figure 331 OTS screening flowchart

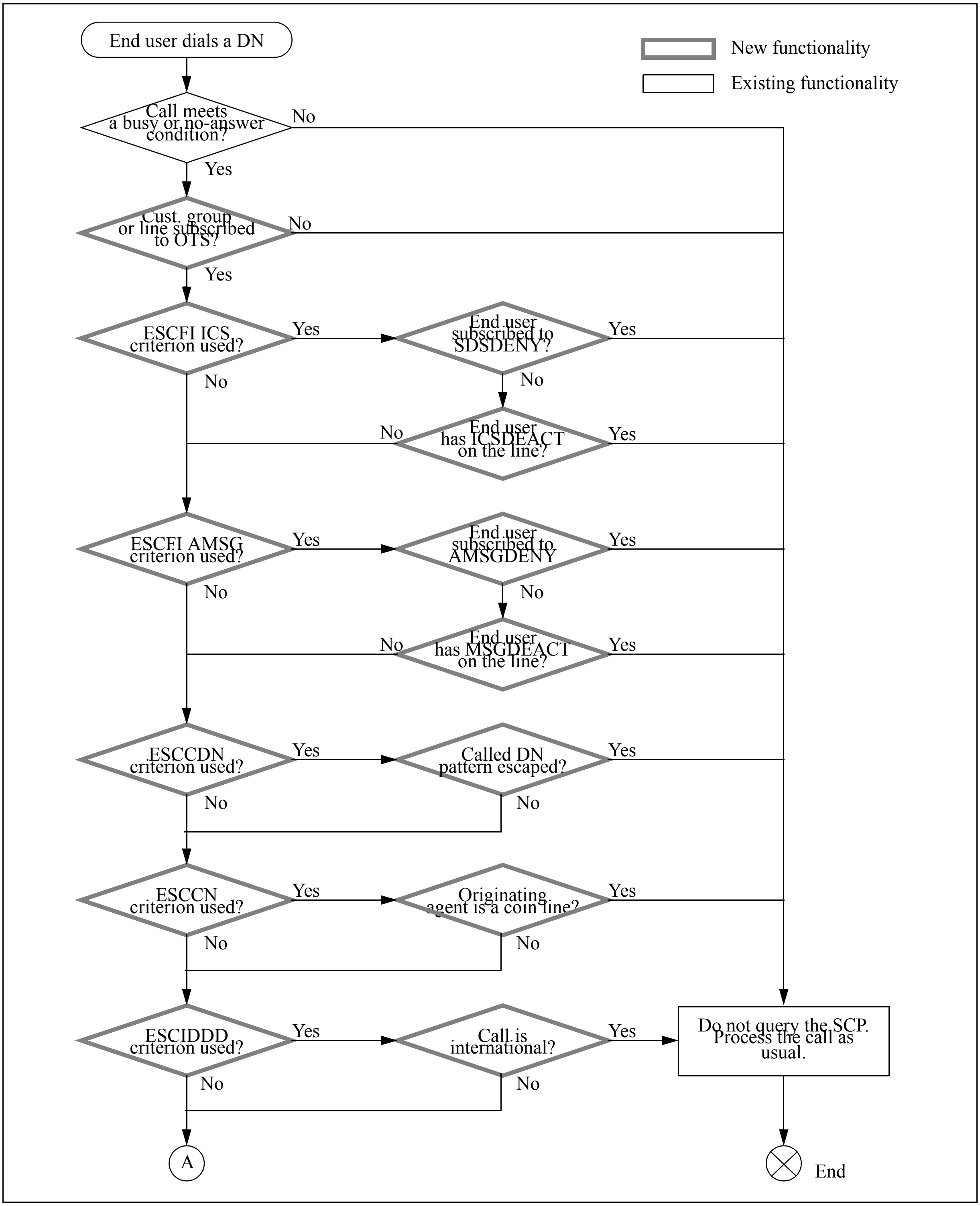
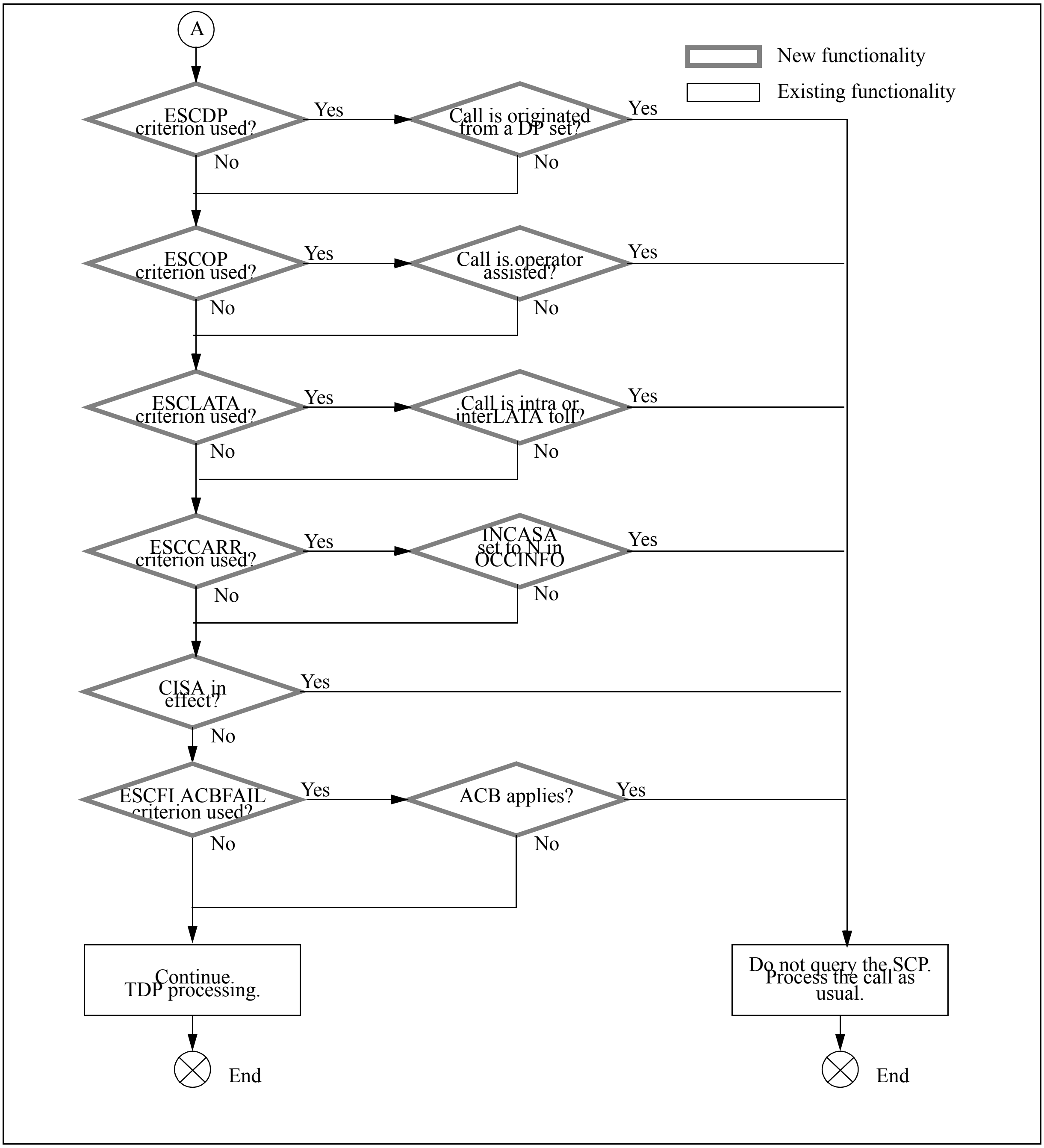


Figure 332 OTS screening flowchart (continued)



54.2.8 Interactions

OTS has general interactions within AIN and with the DMS-100 switch. See Chapter 22:“AIN/DMS-100 interactions (A and B)” through Chapter 4:“Other interactions”.

List of terms

This document contains a list of terms used exclusively for advanced intelligent networks (AIN).

Other DMS-100 switch related terms can be found in the reference manual, NTP 297-1001-825, *Glossary of Terms and Abbreviations*.

Numerical entries

0+MDS

See Call Messenger feature.

00Y

A code used to provide information about the calling party when calling address and automatic number identification (ANI) information is not available. 00Y codes are also used when a trunk group comes in from another office that serves more than one numbering plan area (NPA). The 00Y code is mapped to the serving NPA of the calling party. 00Y calls are usually feature group C (FGC) calls.

1+MDS

See Call Messenger feature.

1FR

one-party flat rate line

10FR

ten-party flat rate line

911 Service

Basic 911 Emergency Service

A entries

AAB

abstract syntax notation 1 (ASN.1)

ACM
address complete message

additional functional call (AFC)
A service assigned to a directory number (DN) on a functional terminal, permitting multiple calls to the DN.

address complete message (ACM)
A Common Channel Signaling No. 7 (CCS7) protocol message sent backward that indicates all the address signals required for routing the call to the called party have been received and that the call can be routed.

ADO
ADD option

advanced intelligent network (AIN)
A network designed as a service control architecture that is engaged during basic call processing. Once engaged, predefined logic using a common set of service independent functions directs subsequent call-processing actions. After the service control functions are completed, basic call processing resumes.

AIN is an evolution of the Common Channel Signaling No. 7 (CCS7) intelligent network (IN). By providing generic external influencing of call processing, AIN enables an operating company to create its own services for its subscribers.

advanced intelligent network response (AINRES)
An option for the translation verification (TRAVER) command line that simulates the processing of certain types of responses coming back from the service control point (SCP).

AFR
automatic flexible routing.

AGENTIDX
agent index

AIN
advanced intelligent network

AINDENY
denial of AIN services

AINF
advanced intelligent network (AIN) final treatment

AIN Maintenance parameter (AMP)
Parameter AMP marks and traces test calls and activates logging on selected calls through the network.

AINRES
advanced intelligent network response

ambiguous speed call (AMBISC)
A feature that allows speed call users to dial speed call access codes and abbreviation codes without using the asterisk (*) prefix.

AMP
AIN Maintenance parameter

ASN
See abstract syntax notation.

ASN.1 encoding rules
Rules that specify the representation during transfer of the values of any ASN.1 type. The ASN.1 encoding rules enable the information being transferred to be identified by the recipient as a specific value of a specific ASN.1 type.

ASOC
advanced intelligent network (AIN) software optionality control

AT&T
American Telephone & Telegraph Company

automatic code gap (ACG) message
A type of message parameter that is sent to a service switching point (SSP) to control the rate at which new initiating events are generated. An ACG is used to control congestion.

B entries

basic business group (BBG)
A feature that provides the basic capabilities for handling a group of lines associated with a single customer. BBG includes provision for special dialing arrangements, special restriction arrangements, and special announcement capability for the switch to recognize the association of the customer’s lines as a group.

basic call service view (BSV)
The objective of Basic Call Service View (BSV) is to isolate the AIN application service element (ASE) and its children from the changes in Basic

Session Service (BASS), User Service Agent (USA), and Network Service Agent (NSA) and to encapsulate all agent-specific processing.

basic session service (BASS)
A session transactor that has a basic call root service active.

BASS
basic session service

BBG
basic business group

BCD
binary-coded decimal

Bell operating company (BOC)
Operating company resulting from AT&T divestiture.

binary-coded decimal (BCD)
A numerical system in which each digit of a decimal number is expressed separately as a 4-bit binary number.

BKG
background class

BLF
Busy Lamp Field

BOC
Bell operating company

BRISC
Bell-Northern Research (BNR) reduced instruction set computing

BSV
See Basic Call Service View.

Business Set Short Hunt
A feature that allows incoming calls to hunt through a set of directory numbers (DN) for an idle DN on which to terminate. The set of DNs can be either standard DN appearances or multiple-appearance DNs, and the set can include all or a subset of the DNs on a Meridian business set (MBS).

C entries

Call Forwarding Group Don't Answer (CFGD/CFGDA)
A feature that allows calls to idle hunt group members to be forwarded if the call is not answered within a certain amount of time.

Call Forwarding Programming (CFWP)
The process that directs incoming calls to a predetermined telephone number.

Call Forwarding Remote Access (CFRA)
A feature that allows a user with Call Forwarding Universal (CFU), Call Forwarding Intragroup (CFI), or Call Forwarding Fixed (CFF) to activate CFU, CFI, or CFF from a remote line through direct inward system access (DISA).

Call Forwarding Validation (CFWVAL)
A feature that provides a means of verifying whether a line has successfully forwarded when a user activates Call Forwarding. There are two variants of CFWVAL: (1) termination validation, which checks that a call completes to the forward number; (2) routing validation, which sends a confirmation tone when the system determines that the call routes successfully and call forwarding is activated.

call hold (CHD)
A feature that is available to Meridian Digital Centrex (MDC) end-users with 500/2500 sets. The feature allows an end-user to hold one call for any length of time. This feature is activated by dialing a feature code (for example, *9) after a switchhook flash.

Call Party Handling (CPH)
The Call Party Handling(CPH) capabilities provide support for basic mid-call event processing for 2-party and 3-party calls.

Calling Line Number Display (CLIDSP)
An option that allows the end-user to control the format of the calling line address on business set displays.

Calling Name and Number Display (CNND)
A feature that is activated by the user and indicates that the user's name and directory number can be displayed at the terminating set.

Calling Name Delivery (CNAMD)
A feature that displays the name of the calling party on the called party's set if the called set has a suitable display window.

Calling Name Delivery Blocking (CNAB)
A Custom Local Area Signaling Service (CLASS) feature that allows subscribers to control, for each outgoing call, whether their name is displayed on the set of the called party.

calling party ID

calling number

A feature that allows an end-user to access a messaging service after an unsuccessful local or 1+ toll call. The feature routes the end-user's call from the end office (EO) to either a Traffic Operator Position System (TOPS) switch or an interexchange carrier's (IEC) service gateway where the messaging service system is connected. The end-user can then leave a message for a recipient through the messaging service. This feature is also known as 1+MDS and it compliments the 0+MDS feature.

call processing (CP)

The function of DMS-100 call-processing software is to establish connections among telephony agents. A number of functional steps are required to process a call, such as detecting the incoming call, receiving digits, analyzing (translating) digits to determine call destination, selecting terminating agent, establishing connection, signaling to and detecting an answer from the terminating agent, and detecting disconnect.

Call Screening/Monitoring Intercept (CSMI)

A feature that provides subscribers of a network-based answering service (NBAS) with a means of monitoring and intercepting calls that are being handled by the NBAS.

call segment (CS)

A functionally separate call portion in a service switching point (SSP) that is accessible to a service control point (SCP) or adjunct through a connection view (CV). For a two-party call, a CS consists of either the originating or terminating call portion in the AIN switch. For a multiparty call, a CS consists of multiple originating and terminating call portions merged together in the SSP for one end-user.

call segment association (CSA)

A relationship between two call segments (CS) of different calls in a service switching point (SSP) for the same end-user. The SSP establishes the relationship if the two CSs share a common controlling leg or if the leg status of the controlling leg is "pending" in one CS and is anything but "pending" in the other CS (that is, the end-user or virtual party supported by the leg is only actively participating in one CS at a time).

call segment identifier (CSID)

A number that identifies a call segment (CS).

call transfer (CXR)

A feature that allows a subscriber to instruct the switching equipment or operator to transfer any incoming calls to another station.

call type (CT)
An option used to specify which type of call (for example, voice or data) may trigger and send a query message.

call waiting origination (CWO)
A Meridian Digital Centrex (MDC) feature that allows an originating line to impose a call waiting tone on a busy called line.

capability set 1 (CS-1)
The first set of advanced intelligent network (AIN) capabilities to be standardized by CCITT/ITU-T. CS-1 is documented in the *CCITT/ITU-T Intelligent Network (IN) Recommendations (Q.1200-series)*.

carrier access code (CAC)
A set of three digits designating the inter-LATA or international carrier (INC) that handles a call. Also known as carrier identification digits.

CBE
Call Forwarding Busy (CFB) Exclude Intragroup

CBECBU
Call Forwarding Busy (CFB) Exclude External Originators/Unrestricted Forwarding

CBI
Call Forwarding Busy (CFB) Block Intragroup

CBICBU
Call Forwarding Busy (CFB) Intragroup Deny Unrestricted

CBQ
Call-Back Queuing

CBU
Integrated Business Network (IBN) Call Forwarding Busy Unrestricted

C-bus
channel bus

CDAR
Customer-Dialed Account Recording

CDCL
Code Calling

CDE
Call Forwarding Don’t Answer (CFD) Exclude Intergroup

CDECDU
Call Forwarding Don't Answer (CFD) Exclude External Originators/Unrestricted Forwarding

CDI
Call Forwarding Don't Answer (CFD) Exclude Intragroup

CDPCODE
Customized Dialing Plan Code

CDPFAC
Customized Dialing Plan Feature Access Code

CD-ROM
compact-disk, read-only memory (CD-ROM)

CDT
Custom Integrated Business Network (IBN) Disconnect Treatment (CDT)

CDU
Integrated Business Network (IBN) Call Forwarding Don't Answer Unrestricted

CFBL
Call Forwarding Busy Line

CFGDA
Call Forwarding Group Don't Answer

CFK
Call Forwarding on a Per-Key Basis

CFMDN
Secondary Multiple Appearance Directory Number Call Forwarding

CFRA
Call Forwarding Remote Access

CFS
Integrated Business Network (IBN) Call Forwarding Simultaneous/Screening

CFWP
Call Forwarding Programming

CFWVAL
Call Forwarding Validation

CFXU

Universal Access to Call Forwarding

CH

consultation hold

channel bus (C-bus)

A proprietary duplicated time division multiplexed (TDM) bus. The C-bus interconnects network interface units (NIU) with link interface units (LIU).

CHD

call hold

CHG

charge option, basic rate access functional set (BRAFS)

CI

Collect Information

CIC

Carrier Identification Code

CIDB

Calling Identity Delivery Blocking

CIDS

Calling Identity Delivery and Suppression

CIFR

Call_Info_From_Resource message

CITR

Call_Info_To_Resource message

CLASS—Message Waiting Indicator Ring Notification (CRN)

A feature that provides periodic ringing for Station Message Waiting (MWT) subscribers with CLASS Message Waiting Indicator (CMWI) notification. CRN is a combination of stuttered dial tone, immediate ringing, and periodic ringing.

CLIDSP

Calling Line Number Display

CMCF

Controlled Multiple Call Forwarding

CNA

Calling Number Announcement

CNAB

Calling Name Delivery Blocking

CNAMD

Calling Name Delivery

CNDBO

Calling Number Delivery Blocking Override

CNF30

Super Conference

Code Restriction (CRL)

A feature that denies or allows selected station lines and network-access trunks the ability to complete outgoing-exchange network calls based on the dialing pattern. The restricted calls are routed to an attendant, an announcement, or a tone on an individual end-user basis.

compact-disk, read-only memory (CD-ROM)

A compact disk adapted for home entertainment that is capable of storing video and audio data in digital format for playback through a computer. Data bits are stored as microscopic pits on the disk and are read by a laser beam.

connection view (CV)

A connection view (CV) provides a service platform with a generic representation (that is, view) of switch call-processing resources. CV processing, within the switch, can be viewed as translating external instructions into operations that are understood by internal switch call processing as well as translating internal call-processing events and the state of internal call-processing resources into information that is understood by external devices such as a service control point (SCP) or adjunct. The switch call-processing resources are described by a set of CV objects, which include the following: call segment association (CSA), call segment (CS), legs, connection point (CP), basic call model (BCM) composed of points in call (PIC) and detection points (DP), CV-related timer, and CV-related monitors.

controlling leg

The leg closest to the access side of the call. For an originating call portion, the controlling leg is the calling party. For a terminating call portion the controlling leg is the called party. Access signaling on this leg can directly control the progress of the call. In a call segment, only one leg is directed toward the originating or a terminating access and it is the controlling leg. *See also* passive leg, and leg.

conversation package

A transaction capabilities application part (TCAP) package expecting a reply. The service control point (SCP), or adjunct, sends a conversation package to the service switching point (SSP) that instructs the SSP to perform an activity and send a reply to the SCP. The SSP can also send a conversation package to the SCP. *See also*TCAP package.

cookbook

A document that provides datafilling examples for the advanced intelligent network (AIN) service switching point (SSP). The examples are organized by trigger and response type.

CPG

Call Progress

CR

Cancel Resource

CS

call segment.

CS-1

capability set 1

CSA

call segment association

CSID

call segment identifier

CSMI

Call Screening/Monitoring Intercept

CT

call type

CTM

conference trunk module

CTR

connect to resource

CTW

Call Transfer Warning

Customer-Dialed Account Recording (CDAR)

A feature that allows variable-length account codes to be entered on a per-call basis, along with predefined prefix digits to be prefixed to the calling number. This feature is not compatible with the off-hook immediate trigger.

customer dial plan (CDP)

A trigger that can be subscribed by a customer group assigned to a customized dialing plan. This triggering criteria is met when an access code, extension number, or vertical service code within a customized dialing plan is dialed. It is applicable to the information analyzed trigger detection point (TDP).

Custom Integrated Business Network (IBN) Disconnect Treatment (CDT)

A feature that allows the operating company to assign a disconnect treatment to a Meridian Digital Centrex (MDC) line on an individual directory number (DN) basis.

CUTTD

Cut-Through Dialing

CV

connection view

CWC

Call Waiting Chaining

CWD

Dial Call Waiting

CWI

Call Waiting Intragroup

CWX

Call Waiting Exempt

D entries

DCBI

directed call pickup with barge-in

DCBU

directed call pickup with non-barge-in

D-channel

A channel that carries call control messages between a terminal on an integrated services digital network (ISDN) interface and the exchange termination. Call control messages are used to set up, maintain, or clear a circuit-switched call on a B-channel. The D-channel also carries low-speed packet data between a terminal on an ISDN interface and a terminal in the packet data network. For a primary rate interface (PRI), the D-channel is a 64-kbit/s bidirectional channel. *See also* Bb channel, basic rate interface (BRI), and primary rate interface (PRI).

DCP

deferred call processing

DCPK

Directed Call Park

DCPU

directed call pickup

DCR

Dynamic Call Routing

Denied Incoming (DIN)

Because the DIN feature is a customer group-based feature, any calls coming in from outside the customer group are denied. Any calls that are not considered intragroup as defined in Integrated Business Network (IBN) translations are denied even if the originator and terminator are in the same customer group.

Denied Termination (DTM)

A feature that prevents a line receiving calls. The line can only originate calls.

detection point (DP)

A point in basic call processing, as modeled by the basic call model (BCM), that identifies when a service control point (SCP) or adjunct can receive a report of a given event and influence subsequent call-processing. DPs are located at transitions between points in call (PIC) in the BCM. Two types of DPs exist: trigger detection points (TDP) and event detection points (EDP). *See also* trigger detection point (TDP), event detection point (EDP), point in call (PIC), and exit event.

DG

digits dialed

Dialable Directory Number (DDN)

A feature that enhances the Calling Number Delivery (CND) feature. DDN displays the calling number in a format that allows the user to return a call easily.

digits dialed (DG)
An option used to specify which digits must be dialed for a call to trigger and send a query message.

DIN
Denied Incoming

directed call pickup with barge-in (DCBI)
A feature that allows the Meridian Digital Centrex (MDC) subscriber to barge in and connect to an incoming call intended for another line in the same customer group and served by the same DMS-100 switch.

directed call pickup with non-barge-in (DCBU)
A feature that allows a subscriber to answer an incoming call that is ringing another line in the same customer group and served by the same DMS-100 switch.

distributed intelligent network architecture (DINA)
DINA is the advanced intelligent network (AIN) architecture for the DMS-250 switch.

Distributed Line Hunt (DLH)
A hunting arrangement that consists of lines divided into groups. The hunt is sequential over all groups until a line in an available group is selected.

DLH
Distributed Line Hunt

DMS
Digital Multiplex System

DMS-SCP
service control point

DMS-SSP
service switching point

DOR
Denied Origination

DP
detection point

dial pulse

DQS
Display Queue Status

DQT
Display Queue Status

DRING
Distinctive Ringing

DRU
development release unit

DS-3
A 44.6-Mbit/s digital signal comprised of 28 multiplexed DS-1 signals.

DSCWID
Spontaneous Call Waiting Identification with Disposition

DTMF
dual tone multi frequency

Dynamic Call Routing (DCR)
A technique that changes call-routing patterns depending on the network load. DCR provides significant cost efficiencies, increased flexibility, and increased network survivability in comparison to traditional, hierarchical call routing.

E entries

EAMF
equal-access multifrequency

EAP
equal access plan

EBO
executive busy override

EBOM
Executive Busy Override on Multiple Appearance Directory Number

EDP
event detection point

EDP-N
event detection point (EDP), and notification

EDP-R
event detection point (EDP), and request

EDRAM
enhanced digital recorded announcement machine

EHLD
electronic key telephone service (EKTS) hold for use by Service Order System (SERVORD)

EMW
Executive Message Waiting

encapsulation
object-oriented programming

end-office display (EOD)
An option that provides the capability to display the calling party number and the dialed 800 number by the calling party on Call Management Service (CMS) and Custom Local Area Signaling Service (CLASS) terminals.

end-user
An addressable network user (business or residential) who employs either analog, public switched data service (PSDS), or integrated services digital network (ISDN) access-signaling arrangements.

enhanced outward wide area telephone service (EOW)
A wide area telephone service (WATS) available in the residential services environment that provides outward WATS for equal-access end offices (EAEO).

enhanced two-way WATS (ETW)
enhanced two-way wide area telephone service

enhanced two-way wide area telephone service (ETW)
A wide area telephone service (WATS) available in the residential services environment that combines enhanced outward wide area telephone service (EOW) and inward wide area telephone service (INWATS) line class code capabilities.

EOD
end-office dialing. *also* end-office display

equal-access multifrequency (EAMF)
A type of trunk signaling in the equal-access feature group B environment that translates and turns a call into the correct carrier.

escape code (ESC)
An option used to specify that only calls in which an escape code has not been dialed may trigger and send a query message.

escape coin (ESCCN)

An option used to specify which call types should escape this trigger. This option only affects coin line originated calls and may only be datafilled for the Specific_Digit_String (SDS) trigger.

escape DN (ESCDN)

An option used to specify that calls to a directory number (DN) that resides on the switch should not trigger. This option may only be datafilled for the Local Number Portability (LNP) trigger.

escape equal access (ESCEA)

An option used to specify that equal access calls should not trigger. This option may only be datafilled for the Specific_Digit_String (SDS) trigger.

escape operator (ESCOP)

An option used to specify that calls going to an operator should not trigger. This option may only be datafilled for the Specific_Digit_String (SDS) trigger.

ESCCN

escape coin

ESCDN

escape DN

ESCEA

escape equal access

ESCOP

escape operator

ESCO

emergency service central office number

ETW

enhanced two-way wide area telephone service

event detection point (EDP)

A point in basic call processing, as modeled by the basic call model (BCM), that can be armed by the receipt of a Request_Report_BCM_Event message from the service control point (SCP) or adjunct. The EDPs are located at transitions between points in call (PIC). EDPs can be armed as requests (EDP-R) or notifications (EDP-N). When the requested event occurs, the switch reports it to the SCP or ‘adjunct. *See also* detection point (DP), trigger detection point (TDP), point in call (PIC), requested event, request, and notification.

EWAL

enhanced wide area telephone service (WATS) access line

executive busy override (EBO)

A feature that enables an end-user on a Meridian Digital Centrex (MDC) line to gain access to a busy line in the MDC group.

Executive Busy Override on Multiple Appearance Directory Number (EBOM)

A feature that allows a caller to barge in on a call involving Multiple Appearance Directory Number (MADN) Selective Call Acceptance (SCA) or MADN multiple call arrangement (MCA), but only if the calling party and called party are in the same customer group.

Executive Conference (MMCONF150)

A feature that provides enhancements to the Meet-me Conference feature. It 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 (previously, the only method of conference control was by hookswitch flash); and allows the controller of the conference to add new conferees without assistance from the attendant.

Executive Message Waiting (EMW)

Executive Message Waiting (EMW) consists of three features: Message Service—Message-List Editing; Message Service—Leave Message; and Call Request Enhancement.

Together, these three features enable end-users to leave and retrieve messages at a Meridian business set (MBS) with display.

expanded Bellcore AMA format (EBAF)

expanded Bellcore automatic message accounting format

extended VANC

extended voice-activated network control

extended voice-activated network control (VANC)

A service that encompasses the capabilities provided by initial VANC, while adding the ability to use voice commands to edit lists for services, such as Selective Call Forwarding (SCF), or to request the status of subscribed features (for example, active or inactive). Extended VANC is under consideration for the future. *See also* initial voice-activated network control (VANC), voice-activated network control (VANC), and voice-activated dialing (VAD).

F entries

FAC

feature access code

facsimile (FAX)

A system of transmitting and reproducing graphic matter, such as printing or still pictures, by means of signals sent over telephone lines. Also, the copy produced by such a system.

FAX

facsimile

FAX Messaging Platform (FMP)

The FMP stores facsimiles (FAX) which have been forwarded from the FAX-Thru Service (FTS) when FTS detects a busy or no-answer condition. The FMP will ensure that the FAX is transmitted from storage to the original destination when the destination FAX machine is available. *See also* FAX-Thru Service (FTS).

FAX-Thru Service (FTS)

The FTS feature is a Special Delivery Service (SDS) enhancement which upon detection of a busy or no-answer condition allows routing of a facsimile (FAX) call to a FAX Messaging Platform (FMP). *See also* FAX Messaging Platform (FMP), and Special Delivery Service (SDS).

feature

A unit of one telecommunications-based capability that can be provided to an end-user.

feature access code (FAC)

A code used by subscribers for controlling and accessing custom calling services.

feature activator (FA)

The key on an integrated services digital network (ISDN) stimulus terminal with circuit-switched service that activates supplementary features such as Ring Again (RAG).

feature group A (FGA)

A plan for the generation of a billing record for a terminating feature group call.

feature group B (FGB)

A plan that allows an equal-access end office (EAEO) or a non-EAEO to provide subscribers with access to FGB carriers. To use this plan, the subscriber must dial 950-WXXX.

feature group C (FGC)
A plan for equal access (EA) that implements the equal access plan (EAP) with the following exceptions: it uses FGC signaling (predivestiture signaling) and it uses additional trunk group types.

feature group D (FGD)
A plan for equal access (EA) that implements the equal access plan (EAP).

FGA
feature group A

FIE
facility information element

FIG
Flash Ignore

Fire Reporting System (FRS)
A feature that is required for lines that interface with dial dictation equipment, which sends off-hook signals back to the switch.

Fire Reporting System, Origination (FRO)
Software that indicates, at a remote location, the busy or idle status of a line. The FRO operates a signal distribution point for each call originating from or terminating to a line that has the FRO enabled.

Flash Ignore (FIG)
A feature that causes the switching unit to ignore the flash signal from that line.

FLEXI
Flexible Intercept

Flexible Intercept (FLEXI)
A feature that allows for the automatic rerouting of calls that cannot be completed because of equipment limitations, imposed restrictions, or dialing irregularities. Calls are routed to the attendant, a tone, or an announcement.

FMP
FAX Messaging Platform

FSM
finite state machine

FTS
FAX-Thru Service

FXR

Fast Call Transfer

G entries

GAME

generic AIN message encoder/decoder

generic AIN message encoder/decoder (GAME)

A part of the advanced intelligent network (AIN) service switching point (SSP) platform. GAME provides messaging capabilities for AIN applications, which include encoding the data passed by an application and sending the encoded message to an external database (service control point [SCP] or adjunct); and receiving a message from the external database (SCP or adjunct), decoding it, and returning the result to the application.

global title address (GTA)

An address, such as dialed digits, that does not explicitly contain information that would allow routing in the signaling network (that is, the translation function of the service control point (SCP) is required). Formarly known as global title value (GTV).

global title value (GTV)

See global title address (GTA). GTA replaces GTV in current documentation. This is consistent with efforts to standardize common channel signaling (CCS) terminology.

GMS

Generic Multiplexing Service

GOS

grade of service

GPS

Global Product Support

GTA

global title address

GTV

global title value

H entries

harmonic ringing

A system of selectively signaling several parties on a party line by using a different frequency and a specially tuned ringer for each party. The frequencies are harmonics of 16 2/3 Hz and 25 Hz as follows: 16 2/3 Hz, 25 Hz, 33 1/3 Hz, 50 Hz, and 66 2/3 Hz. *See also* frequency selective ringing (FSR).

HCB

history control block

HDB

history data block

HF

hands-free unit

HFMUTE

combined hands-free/mute

HLD

permanent hold

I entries

IAM

initial address message.

ICMSG

Intentional Call Messenger

IDDD

international direct distance dialing

IEC

interexchange carrier

IECFB

Internal/External Call Forwarding Busy Denied

IECFBCBU

Internal/External Call Forwarding Busy Unrestricted

IECFD

Internal/External Call Forwarding Don't Answer Denied

IECFDCDU

Internal/External Call Forwarding Don't Answer Unrestricted

INAP

intelligent network application protocol

incremental software delivery (ISD) process

A process that enables a service to be delivered to a product without the need for a complete batch change supplement (BCS).

initial address message (IAM)

The first message in a call (connection oriented or connectionless) that contains information required to route the call to its destination.

initial voice-activated network control (VANC)

A service that allows simple activation and deactivation of vertical services by speaking one of a limited set of service names. Initial VANC is an AIN 0.2 service driver. *See also* extended voice-activated network control (VANC), voice-activated network control (VANC), and voice-activated dialing (VAD).

intelligent network application protocol (INAP)

A protocol developed by the European Telecommunications Standards Institute (ETSI) for the European intelligent network (IN). It defines the protocol required for the support of capability set 1 (CS-1).

Intentional Call Messenger (ICMSG)

A feature that automatically allows callers to leave messages for the parties of their choice. Callers do not have to attempt to reach the message recipient beforehand.

IP

intelligent peripheral

IPUI

intelligent peripheral user interaction

IRR

Inhibit Ring Reminder

ISDNI

integrated services digital network (ISDN) interface

ISDNUP

ISDN user part

IT

inter-toll dialing. *also* inter-toll trunk (IT)

K entries

Keyset Short Hunt Group (KSH)
A feature that allows calls to hunt from one directory number (DN) to another on the same keyset.

Key Short Hunt (KSHUNT)
KSHUNT provides information to operating companies on the use of the Business Set Short Hunt feature. *See also* Business Set Short Hunt.

KSH
Keyset Short Hunt Group

KSHUNT
Key Short Hunt

KSMOH
Key Set Music on Hold

L entries

LCO
Local Coin Overtime

LDA
Long Distance Alert.

LDAE
Long Distance Alert Enhancement

LDS
Long Distance Signal

leg
A communication path from a connection point toward an end-user.

LEN
line equipment number

LIF
logical interface

line appearance on a digital trunk public safety answer point (LDTPSAP)
One of three types of public safety answering points (PSAP), LDTPSAP makes use of line appearance on a digital trunk (LDT) software. It is connected through a trunk interface that receives automatic number identification (ANI), but LDTPSAP appears to the central control (CC) as a hunt group line. *See*

also line appearance on a digital trunk (LDT), line-ended PSAP (LINEPSAP), public safety answering point (PSAP).

line class code (LCC)

An alphanumeric code that identifies the class of service assigned to a line.

local primary interexchange carrier (LPIC)

A feature that allows Subscriber Services subscribers to choose a primary carrier for intra-LATA service. *See also* primary interexchange carrier (PIC).

Long Distance Alert (LDA)

A feature that provides end-users with an indication of an incoming call by providing distinctive ringing or distinctive call waiting tones on the called line. The operating company may specify a time-out period within which the called party must respond to the LDA distinctive call waiting tones. If the called party does not respond within that period, the call is routed to the No Terminal Responding (NTRS) treatment. If no time-out is specified, the behavior is the same as the regular call waiting feature. The LDA feature notifies end-users of incoming toll calls in both the on-hook and off-hook conditions. *See also* Long Distance Signal (LDS).

Long Distance Alert Enhancement (LDAE)

LDAE enhances the Long Distance Signal (LDS) feature by introducing the following functions: ability to provide LDS as a ring, tone, or a ring and tone line option; ability to specify the duration of the time-out for call waited calls; and the ability to specify whether distinctive alerting is provided when no CallingLineID (CLID) is delivered.

Long Distance Signal (LDS)

A feature that provides end-users with distinctive ringing or distinctive call waiting tones on the called line to indicate an incoming toll call. *See also* Long Distance Alert (LDA).

M entries

M536

A 36-button add-on module for a Meridian business set.

Make Busy Key (MBK)

A feature that creates a Make Busy Key (MBK) line option. When the MBK option is assigned, a scan point circuit, which is controlled by an external key, is associated with the line. The external key is used to activate the MBK line option. The MBK function allows the set, to which MBK is assigned, to appear as if it is busy with respect to call forwarding (CF).

MAN

Manual Line (MAN)

Manual Line (MAN)

A manual service line option that is similar to the Automatic Line (AUL) feature except that the originator is always connected to the operator. *See also* Automatic Line (AUL).

MAP command interpreter (MAPCI)

A CI at the MAP level for accessing maintenance and other functional levels. *See also* command interpreter (CI).

MBG

Multilocation Business Group

MBK

Make Busy Key (MBK)

MBSCAMP

Meridian business set (MBS) Station Camp On

MCDN

Message Center Directory Number

MDE

message departure element

MDM

multiple data message

MDNNAME

Multiple Appearance Directory Number (MADN) Member Name Display

MDR

message detail recording

Meet-me Conference (MMC)

A feature that 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. *See also* Executive Conference (MMCONF150), and Super Conference (CNF30).

MEMDISP

directory number (DN) network attribute Multiple Appearance Directory Number (MADN) Member Display option

Meridian ACD (MACD) with CompuCALL options

An application that allows the concurrent delivery of voice calls and data from the user's host computer to an answering automatic call distribution system (ACD) agent.

message parameters

Parameters that are within a message. Each message type has its own set of mandatory and optional parameters.

message switch (MS)

A high-capacity communications facility that functions as the messaging hub of the dual-plane combined core (DPCC) of a DMS SuperNode processor. The MS controls messaging between the DMS-bus components by concentrating and distributing messages and by allowing other DMS-STP components to communicate directly with each other.

message waiting query (MWQRY) key

The message waiting query key on an electronic business set (EBS).

MF

multifrequency

MLAMP

Multiple Appearance Directory Number Lamp

MLH

Multiline Hunt

MLHG

Multiline Hunt Group

MLVP

Multiline Variety Package

MMC

Meet-me Conference

MMCONF150

Executive Conference

MPB

Multiparty Bridge

MPH

Multiple Position Hunt

MREL
Multiple Appearance Directory Number Release

MRF
Multiple Appearance Directory Number (MADN) Ring Forward

MSBI
Make Set Busy Intragroup

MSC
message sequence chart

MULTICFA
Multiple Call Forwarding for Call Forwarding Universal (CFU)/Call Forwarding Intragroup (CFI)

MULTICFB
Multiple Call Forwarding Busy

MULTICFD
Multiple Call Forwarding Don't Answer

multifrequency (MF)
A signaling method that makes use of pairs of standard tones to transmit signaling codes, digit pulsing, and coin-control signals. This method is used by interregister signaling on analog trunks. *See also* interregister signaling.

Multiple Appearance Directory Number Lamp (MLAMP)
An option that is recommended for Multiple Appearance Directory Number (MADN) groups that need to know when a call is bridged or on hold which makes the call available to other MADN group members. When a call is not bridged, and the MADN group member invokes autohold, the lamp winks to indicate that the call is on hold and any MADN group member can pick up the call.

Multiple Appearance Directory Number, multiple call arrangement (MADN-MCA)
A Multiple Appearance Directory Number (MADN) configured so that more than one telephone set can be active simultaneously. *See also* multiple call arrangement (MCA).

Multiple Appearance Directory Number Release (MREL)
In a typical Multiple Appearance Directory Number (MADN) Selective Call Acceptance (SCA) call scenario, multiple MADN members are involved in a bridged call with an external party. When the external party disconnects, the MADN members remain in a bridged call. MREL changes this functionality so that when the external party disconnects, the bridge is taken down and the MADN members are automatically disconnected.

Multiline Hunt (MLH)

A feature that routes each call to a line in a hunt group by trying each line in a numerical sequence until the call is answered. All calls start at a single directory number (DN), which is known as the pilot. No other lines in the hunt group have DNs.

Multiway Call

A set of features that allow a subscriber to set up conference calls. The Multiway Call features supported are Three-way Call (3WC), Super Conference (SUPERCONF), and Executive Conference. *See also* Three-way Calling (3WC), Super Conference (CNF30), and Executive Conference (MMCONF150).

MUMR

multi-unit message rate

MUTE

Mute feature

MWIDC

message waiting indication

MWQRY

See message waiting query.

N entries

N11

A generalization of the dialing codes for special services, such as 411 for information services, 611 for telephone repair services, and 911 for emergency services.

NAC

non-area code, network administrative center

Name and Reason Display (REASDISP)

A feature that allows a name and reason to be displayed for incoming and outgoing calls on a Meridian business set (MBS) with display. Parties originating a call are able to see the name of the called party. Parties receiving a call are able to see the name of the calling party.

NANP

North American Numbering Plan

NARS

network access registers

NBAS
network-based answering service

NCRB
non-call-related base

NEL
next event list

network elements
Processor-controlled entities of the telecommunications network that primarily provide switching and transport network functions and contain network operations functions. Examples are non-AIN switching systems, digital cross-connect systems, AIN switching systems, and signal transfer points (STP).

network ring again (NRAG)
A feature that allows Meridian Digital Centrex (MDC) end-users who encounter a busy anywhere in their customer group to call that station again automatically.

network service agent (NSA)
An NSA is an object that is encapsulated by an active service element's (ASE) service agent. An NSA, in turn, encapsulates a network service protocol (NSP) and, within sessions, a remote bearer channel (RBC). An NSA thus provides a focal point for managing network-side signaling and connection functions.

network service protocol (NSP)
An NSP is a service protocol object that is encapsulated by a network service agent (NSA).

network systems
Processor-controlled entities of the telecommunications network that provide ancillary network functions and contain network operations functions. Examples are service control points (SCP), adjuncts, and intelligent peripherals (IP).

next event list (NEL)
A list of requested events associated with an open transaction that is maintained at the switch. The service control point (SCP) or adjunct requests these events using the Request_Report_BCM_Event message. *See also* requested event, and event detection point (EDP).

NFA
Network Facility Access

NFRA

Speech-activated Intelligent Dialing (SAID) remote access

Night Service Directory Number (NSDN)

An option that allows calls to be rerouted either to a predetermined directory number (DN) or to a busy signal when the consoles are unattended.

NI-2

national ISDN-2

No Receiver Off-hook Tone (NOH)

A feature that prevents a line from receiving a receiver off-hook tone when the line has a permanent signal or partial dial tone.

Nortel

See Nortel Networks.

Nortel Networks

Nortel Networks is a global leader in telephony, data, wireless and wireline solutions for the Internet. (Nortel Networks was previously called Nortel, and Northern Telecom [NT].)

North American Numbering Plan (NANP)

A numbering plan for the Public Switched Telephone Networks (PSTN) of the United States, Canada, northern Mexico, and the Caribbean. The plan divides each region into geographical areas. Each geographical area has its own distinctive three-digit area code, and no two telephone subscribers in the same area code will have the same seven-digit telephone number. *See also* numbering plan area (NPA), and public switched telephone network (PSTN).

Northern Telecom

See Nortel Networks.

notification

An event whose detection causes the switch to report the event to the service control point (SCP) or adjunct without halting the call processing. *See also* switch notification message, and request.

NPASPLIT

numbering plan area (NPA) split

NPI

numbering plan indicator

NRAG

network ring again

NRS
Network Resource Selector

NSA
network service agent

NSDN
Night Service Directory Number)

NT
See Nortel Networks.

NTNA
Northern Telecom North America

NTRS
No Terminal Responding

numbering plan indicator (NPI)
The directory number (DN) for primary rate interface (PRI) trunks that is used to populate the USERID parameter in the format of PUBLIC and TEN-DIGITS.

NXID
number exchange identification

O entries

OA
operations applications

OAM
operation, administration, and maintenance

OBC
originating basic call

OBCM
originating basic call model

object
A self-contained module of data and its associated processing.

object-oriented programming (OOP)

A programming technology that is more flexible than standard programming. It is a form of modular programming that allows pieces of software to be reused and interchanged between programs.

C++ is becoming the mainstay OOP language, because it combines traditional C programming with object-oriented features.

object-oriented (OO) technology

A paradigm that views the world as objects rather than as procedures. Object-oriented analysis (OOA), object-oriented design (OOD), and object-oriented programming (OOP) employ the concepts of encapsulation, classification, and inheritance. *See also* object-oriented programming (OOP).

OC-1

optical carrier 1

OCM

originating call model. *See* originating basic call model (OBCM).

off-board processor

A generic term for a service control point (SCP) or adjunct.

off-board processor service view (OSV)

The AIN Essentials off-board processor service view (OSV) contains the behavior for communicating with the generic environment for messaging on the switch. The AIN Essentials OSV establishes a signaling channel, determines the parameters needed to be sent in query messages, creates parameter objects of a signaling message and a protocol-independent set of messages (PRISM), sends messages to signaling channels, receives response messages, validates the response messages received, destroys signaling channels, and passes signaling messages to the AIN Essentials application service element (ASE) for processing. The AIN Essentials OSV encapsulates much of the behavior required to send and receive signaling messages, which allows the AIN Essentials ASE to concentrate on processing responses.

OFFHKDEL

off-hook delay (OHD)

OFS

overflow register, software

OHD

off-hook delay. Also known as OFFHKDEL.

OHI

off-hook immediate. Also known as OFFHKIMM.

OHQ

off-hook queuing

OLS

originating line select

OLI

originating line information

OOS

out of service

Open Systems Interconnection (OSI)

A seven-layered communications protocol of the International Organization for Standardization (ISO) that is intended as a public reference model of a framework that would permit network communications among many dissimilar types of devices. The physical, data link, network, and transport layers of the OSI protocol govern the interactions among the networks that transmit information. The session, presentation, and application layers govern the preparation of information for transmission and the processing of received information for storage or use. In theory, any OSI-compatible devices could use an OSI-compatible network to exchange information.

operations applications (OA)

A class of functions that provide provisioning, administration, maintenance, and management capabilities for network elements, network systems, software and services (for example., assessment of service quality over the group of systems and software that support the service). These functions usually reside in operations systems, but they can be assigned to network elements or to network systems based on the decisions of the local exchange carrier (LEC).

optical carrier 1 (OC-1)

In the synchronous optical network (SONET), OC-1 specifies the optical form of the basic 51.84-Mbit/s SONET communications channel. *See also* synchronous optical network (SONET), and synchronous transport signal 1 (STS-1).

originating line information (OLI)

Information about the calling party's directory number (DN).

OS

operations system. *See also* operations applications (OA).

OSA

operator system access

OSDN
originating station directory number

OSI
Open Systems Interconnection

OSS
Operator Services System

OSTY
originating station type

OSV
off-board processor service view

out of service (OOS)
An equipment state in which equipment is removed from service either automatically (by the system) or manually (by personnel).

P entries

passive leg
The leg furthest from the access side of the call. For an originating call portion, the passive leg is the called party. For a terminating call portion, the passive leg is the calling party. There is no access signaling on a passive leg that directly controls the progress of a call. For each passive leg there is an originating basic call model (OBCM) or a terminating basic call model (TBCM) that supports the connection view (CV). *See also* controlling leg, and leg.

passive service element (PSE)
A passive service element contains the persistent and provisioned data required to support a service. A PSE resides in the resource layer and it is provisioned against a specific resource file.

PBL
Meridian business set (MBS) individual business line

PBM
private branch exchange message rate

PCL
product CM load

PFC
public feature code

PLP

Plug Up

PLS

prime line select

Plug Up (PLP)

A feature that prevents calls from terminating to a specific line.

PODP

Public Office Dialing Plan

point in call (PIC)

A generic representation of a sequence of switch-based call-processing actions considered essential to establish, maintain, or clear a two-party call. PICs are separated by trigger detection points (TDP) in the basic call model (BCM).

PRI looparound

primary rate interface (PRI) looparound

primary interexchange carrier (PIC)

A line option that is assigned to a line when a subscriber has selected an inter-LATA carrier to handle toll calls. *See also* local primary interexchange carrier (LPIC).

private branch exchange message rate (PBM)

A message register associated with the operational measurements (OM) system that provides peg counts from 0 to 32,767 and then resets automatically to 0.

private virtual network (PVN)

A service that allows a customer to have the appearance of a private network with private network features and capabilities. It uses the public switched telephone network (PSTN) to avoid the higher costs of underused private transport facilities and to avoid the higher costs of long distance calls.

PRL

Privacy Release

programmable forward call

A feature that allows a subscriber to forward calls to a directory number (DN) other than the normal DN. The feature can be enabled or disabled, and the DN of the forwarding location can be set from any remote location. The subscriber dials a special number supplied by the operating company. The subscriber is prompted to enter a personal identification number (PIN) for verification as a legitimate user. Once verified, the subscriber enters the enable/disable request and forwarding DN. If the subscriber is successful, the subscriber is given a confirmation message; if the subscriber is unsuccessful, the call is disconnected. *See also* call forwarding (CF/CFX).

PRS

Problem Resolution System

PRV

Multiple Appearance Directory Number (MADN) Privacy

PSD

passive service directory

PSE

passive service element

Public Office Dialing Plan (PODP)

An AIN Essentials trigger that is based on a number in a national numbering plan format.

PVN

private virtual network

Q entries

QTD

Query Time and Date

query

A type of communication message that is sent by the service switching point (SSP) to the service control point (SCP), or adjunct, requesting call-processing instructions. In AIN, the message is contained in a transaction capabilities application part (TCAP) query package. *See also* TCAP package.

R entries

RAG

Ring Again

Random Make Busy (RMB)

A feature that provides for a miscellaneous scan-point circuit controlled by an external key. The line is made permanently busy when the key is activated and is normal when the key is not activated. The same scan point can be assigned to one, several, or all lines within a hunt group, depending on which lines are made busy. This feature can be assigned in one of the following three types of hunt groups: Directory Number Hunt (DNH), Multiline Hunt (MLH), or Distributed Line Hunt (DLH).

RBC

remote bearer channel

RDB

remote database

REASDISP

Name and Reason Display

refinable translation result (FTR)

A selector used in table IBNXLA that is required if the digit or digits dialed are the access code for the following options and features: bearer capability, dial call waiting, group intercom, loudspeaker paging answerable activation, loudspeaker, Meridian offnet access, network facility explicit access, no modem pool, prefix network resource selector (NRS) default, prefix network resource selector (NRS) outbound, speed calling access code, and voice message exchange.

remote bearer channel (RBC)

A remote bearer channel that is allocated by an active service element (ASE) to buffer connection information associated with the user at the far end of an agent interworking protocol (AIP) signaling channel. The RBC is a subclass of a bearer channel and it resides in the server layer.

Remote Message Register, Signal Distribution Point (RMS)

A feature assigned when a hardware register is to be incremented at a remote location from the DMS switch.

request

An event whose detection causes the switch to halt call processing, report the event to the service control point (SCP) or adjunct, and wait for a response. *See also* notification, and switch request message.

requested event

A switch event that has been requested by the service control point (SCP) or adjunct with a Request_Report_BCM_Event message. See also event detection point (EDP), and next event list (NEL).

Residence Enhanced Services (RES)

Software that provides for the implementation of sophisticated phone services for residential subscribers and small businesses previously serviced on plain ordinary telephone service (POTS) single-line flat rate or single-line message rate lines. Formerly known as Residential Services (RES).

response package

A transaction capabilities application part (TCAP) package containing one or more messages sent in response to another TCAP package. The service control point (SCP), or adjunct, can use a response package to instruct the service switching point (SSP) to perform an activity. The SSP can also send response packages. *See also* TCAP package.

Ring Again (RAG)

A feature that allows a calling party encountering a busy station to be connected automatically with that station when it becomes available. *See also* Network Ring Again (NRAG).

RMS

Remote Message Register, Signal Distribution Point

RMT

Remote Message Tool

RO

Remote Operation

RPA

Repeated Alerting

RSC

remote switching center

RSUS

Suspend/Request Suspension

S entries

SAID

Speech-activated Intelligent Dialing

SAM

service alteration manager

SAP

service alteration point

SCMSG

Standard Call Messenger)

SCP

Service Control Point

SCPAUSE

speed call pause insertion

screening

A telephony function that determines the eligibility to complete a call as dialed based on the class-of-service information associated with the line.

SCS

speed calling short list

SCVAL

speed call validation

SDO

smart data object

Secondary Multiple Appearance Directory Number Call Forwarding (CFMDN)

A feature that enables secondary members of a Multiple Appearance Directory Number (MADN) group to activate or deactivate call forwarding (CFW) from their sets. When this feature is activated by a member, the entire key list of the "primary" MADN member is forwarded to the specified directory number (DN).

Selective Call Messaging (SCM)

SCM is an enhancement of the Special Delivery Service (SDS). SCM allows the operating company to optionally offer a message delivery service with universal subscription. *See also* Special Delivery Service (SDS).

service management system (SMS)

The SMS is an off-line node that performs management functions. It introduces new services and customer profiles to the network. It updates the service control points (SCP) in the network through regular batch updates, thereby ensuring database consistency for customer and service information.

The SMS enables operating companies to provision and administer the SCP, adjunct, and service switching point (SSP).

service switching point (SSP)

A switch that is capable of interacting with the Common Channel Signaling No. 7 (CCS7) network databases. The SSP contains hardware to support CCS7 signaling, software to create network database query messages, and software to interpret network database response messages.

SFC

specific feature code

shared inter-office trunk trigger
A trigger that allows the identification of advanced intelligent network (AIN) calls based on particular elements of the signaling protocol, whether it is a feature group D (FGD) TR317 ISDN user part (ISUP) or TR394 ISUP.

SKDISP
Softkey Transfer

SLQ
Single Line Queuing

smart data object (SDO)
The smart data objects (SDO) are owned by the root application service element (ASE). Child ASEs can ask for a handle to the SDOs. Once the child ASE has a handle to the object, it can increment and check the counter. This mechanism is analogous to an elaborate history control block/history data block (HCB/HDB).

SMS-originated call control (SOCC)
The SOCC provides message congestion control that is similar to automatic call gapping (ACG). However, call control is initiated by the service management system (SMS).

SN
send notification

SNM
send notification manager

SNP
service notification point

SOC
software optionality control

SOD
stringing of digits

SONET
synchronous optical network

SOR
Station Origination Restrictions

SORC
Station Origination Restrictions Controller

Special Delivery Service (SDS)

A feature that provides the caller with the option to invoke message delivery when the called party is busy or does not answer within an office-defined interval. The service is offered only to the subscribed originator and is requested directly from the end office (EO) where the call is originating. The actual voice message delivery is then offered from a Voice Message System (VMS) attached to the operating company's network.

speed call pause insertion (SCPAUSE)

An enhancement of the speed calling service that allows subscribers to insert pauses into the signaling digit string as they program a 24-digit maximum speed call number.

Speed Call User (SCU)

A feature that allows a subscriber to program a set of call-specified numbers using only one or two digits.

speed call validation (SCVAL)

An option assigned to a customer group that allows the call digits programmed in the speed call number to be validated.

Spontaneous Call Waiting Identification with Disposition (DSCWID)

A feature that allows the subscriber to receive calling party information during call waiting and provides the subscriber with a set of disposition options to treat incoming calls.

SPRING

Subscriber Programmable Ringing for Call Forwarding Remote Access (CFRA) on Residence Enhanced Services (RES)

SRS

Suppressed Ringing Service. *See also* Suppressed Ringing Access (SRA).

SSAC

Station-specific Authorization Codes

SSP

Service Switching Point

Standard Call Messenger (SCMSG)

A feature that automatically allows the caller to leave a message for the last party the caller has tried to reach.

station message waiting (MWT)

A feature that provides notification to users that a message has been queued against their directory number (DN). The feature permits users to dial an access code to call back the station user or attendant who activated the station message waiting feature against their DN. MWT also allows the station user to activate station message waiting on another station.

Station Origination Restrictions (SOR)

A feature that determines if a call should be restricted. SOR restrictions fall into one of the following four categories: calls permitted based on network class of service (NCOS); only intragroup calls or calls on an exception list are allowed; only calls on the exception list are allowed; and no calls are allowed.

Station-specific Authorization Codes (SSAC)

A feature that provides the capability of limiting authorization code use to a specific station. This restriction increases security since the authorization code is linked to the idividual’s station and cannot be used from just any location.

stored program control (SPC)

The control of an automatic switching arrangement in which call processing is determined by a program stored in an alterable memory.

SPC is also the control of a function by sequentially interpreting information stored in a memory whose structure is independent of the function to be performed.

STR

Send To Resource

subscription

trigger subscription

subsystem number (SSN)

The identification of a subsystem located at a Common Channel Signaling No. 7 (CCS7) point code that can supply data.

Super Conference (CNF30)

An option that extends the maximum number of conferees on an attendant setup or Meet-me Conference call from 6 to 10 or more (maximum of 30). *See also* Meet-me Conference (MMC), and Executive Conference (MMCONF150).

Suppressed Ringing Access (SRA)

A feature that provides the capability to access a telephone company’s customer loop without audibly ringing the telephone set(s) on the customer’s premises. The SRA feature functionality is provided as part of a networked Suppressed Ringing Service (SRS) whereby a suppressed ringing call can be originated from any point in the network to any customer’s line network-wide.

Suppressed Ringing for Telemetry (UTS)

A feature, also known as the Utility Telemetry Service (UTS), that allows a utility access to an end-user's line for telemetry data purposes. Connections will only be made when the subscriber's line is idle. There is no disruption to the subscriber's usual activities. No power ringing is applied to the customer's line when a connection is made.

SUS

Suspend

SUS/RSUS

Suspend/Request Suspension

Suspend/Request Suspension (SUS/RSUS)

A feature that is assigned to a directory number (DN) appearance when the customer requests suspension of service. If SUS/RSUS is assigned, it is possible to specify the treatments received by calls that originate from and terminate to the customer line.

SVCGRP

Service Group

SWERR

software error

switch notification message

A switch call-related message that indicates that no service control point (SCP) or adjunct response message should be sent. *See also* switch request message, and notification.

switch request message

A switch call-related message that indicates that a service control point (SCP) or adjunct response message is required. *See also* request, and switch notification message.

synchronous optical network (SONET)

A standard for optical transport that defines optical carrier levels and their electrically equivalent synchronous transport signals. The SONET standard allows for a multivendor environment, for the positioning of the network for transport of new services, for synchronous networking, and for enhanced operation, administration, and maintenance (OAM).

The SONET standard is built around a 51.84-Mbit/s basic communications channel that is multiplexed upward. SONET network standards incorporate existing 1.544-Mbit/s DS-1 service and 44.6-Mbit/s DS-3 service as subsets of the 51.84-Mbit/s SONET basic channel. *See also* synchronous transport signal 1 (STS-1), and optical carrier 1 (OC-1).

T entries

T&C

time and charges

T1 timer

TAD

telephone answering device

TAFAS

Trunk Answer From Any Station

TAT

termination attempt

TBC

terminating basic call

TBCM

terminating basic call model

TCAPMON

transaction capabilities application part monitor

TCAPNM

Calling Name Delivery for Meridian Digital Centrex (MDC)

TCAP package

AIN service switching point (SSP) messages are passed between the SSP and the service control point (SCP) in transaction capabilities application part (TCAP) components (messages) in TCAP packages. The following TCAP package types are used by the AIN SSP: (1) query (Query with Permission To Release) initiates a transaction; (2) response package terminates a transaction; (3) conversation (Conversation with Permission to Release) maintains a transaction; (4) unidirectional package sends “message not associated with a transaction”; (5) abort package terminates a transaction abnormally.

TCP/IP

transmission control protocol/internet protocol

TDISC

IP disconnect timer

TDV

Toll Diversion

teen service

A feature that allows multiple directory numbers (DN) to be assigned to each single-party flat-rate line without the expense of additional line equipment. Different ringing patterns are used for each DN.

telco

telephone company

TERMATT

Termination Attempt trigger

TPE

trigger processing environment

terminal identifier (TID)

In DMS software, the TID uniquely identifies any entity on which a call can be originated or terminated. The TID is an identifier for message sources or destinations.

terminating basic call model (TBCM)

The type of basic call model (BCM) that represents call-processing logic related to the terminating call portion of a basic call. *See also* basic call model (BCM), call model, and originating basic call model (OBCM).

Terminating Billing Option—Hunt Groups (TRMBOPT)

An option that allows an automatic message accounting (AMA) record to be generated for each call that terminates on a member of a hunt group that has TRMBOPT assigned.

TID

terminal identifier

TN

termination notification

TNS

Transit Network Selection

TPE

trigger processing environment

TRA

Term Resource Available trigger

translation type (TT)

Directs a message to the appropriate global title translation (GTT) function, and in some cases provides the context for which the global title (GT) digits are to be interpreted.

translation verification (TRAVER)

A diagnostic tool that allows the operating company to access and simulate a telephone call in software and to display the tables and tuples used to establish the lines, trunks, or positions to which a call is routed.

transmission control protocol/internet protocol (TCP/IP)

A standard operating and interface protocol for local area networks (LAN) that can use devices from multiple vendors. It was first developed by the United States Defense Department for federal government LANs.

TRAVER

See translation verification (TRAVER).

trigger

A trigger defines the conditions that must be met for the service switching point (SSP) to send a query to the service control point (SCP), or adjunct. One or more types of triggers can occur at each trigger detection point (TDP).

trigger criteria

Trigger criteria defines the conditions used to determine whether a particular call will trigger. A trigger can contain criteria of one or more trigger criteria types. In order for a call to trigger, all trigger criteria must be met. There are three AIN criteria types: (1) Call Type, which specifies what kind of call may trigger; (2) Digits Dialed, which defines specific digits that cause triggering; and (3) Escape Code, which bypasses triggering.

For example, at the Information Analyzed point in a call, there may be a Customized Dialing Plan trigger whose criteria include Call Type and Digits Dialed. The operating company defines the values of Call Type and Digits Dialed.

triggering

The process whereby a call indicates that it requires advanced intelligent network (AIN) service(s).

trigger subscription

Triggers can be subscribed by the following: individual (line or trunk group), group (customer group), office, and directory number (DN).

trigger tables

Trigger tables store information about the advanced intelligent network (AIN) application, triggers, trigger detection points, trigger criteria, transport protocol, and service control point (SCP), or adjunct, routing.

TRMBOPT

Terminating Billing Option—Hunt Groups

Trunk Answer From Any Station (TAFAS)

An option that allows answering of incoming attendant-seeking calls from any station if all attendant positions are unattended. TAFAS dials an answer code in response to a common audible ringing device such as a bell or a buzzer.

TSP

Terminal Service Profile

TSTRC

STR-connection timer

tuple

A horizontal row in a data table.

TWW

two-way wide area telephone service (WATS)

U entries

U3WC

Usage Sensitive Three-way Calling

UASE

utility active service element

UCDLG

uniform call distribution (UCD) login key for UCD lines

UCDNSA

uniform call distribution (UCD) night service activate

UCDNSD

uniform call distribution (UCD) night service deactivate

UIF

user interface framework

unified processor (UP)

A processor that replaces the master processor (MP), the signaling processor (SP), and the memory cards associated with these processors. This replacement upgrades the remote switching center (RSC) to an ISDN remote switching center (RSCI).

Universal Access to Call Forwarding (CFXU)

A feature that provides universal access to call forwarding for telephones with a line class code of RES, RES-1FR, or RES-1MR.

Universal Voice Messaging (UVM)

A voice messaging service that is offered universally to residential and small business end-users through simplified dialing. The service is intended to be universal for several types of originating and terminating residential and business customers within an operating company's network.

UP

unified processor

UR

update request for trigger activation and deactivation

USA

user service agent

Usage Sensitive Three-way Calling (U3WC)

A feature that provides the Three-way Calling (3WC) feature on a pay-per-use basis. The U3WC user is charged each time the 3WC feature is requested instead of being charged a flat rate that is independent of the number of 3WC activations.

USD

utility services directory

user interface

The series of commands and responses used by operating company personnel to communicate with the DMS-100 Family switches. Communication takes place through the MAP terminal and other input/output devices (IOD). Formerly known as man-machine interface (MMI) or human-machine interface (HMI).

user service agent (USA)

A user service agent is an object that is encapsulated by an active service element's (ASE) service agent. It provides a focal point for managing user-side signaling and connection functions.

UTR

universal tone receiver

UTS

Suppressed Ringing for Telemetry

UVM

Universal Voice Messaging

UWATS

universal wide area telephone service

V entries

VAD

voice-activated dialing

VANC

voice-activated network control

VAPN

virtual access to private networks

VDN

virtual directory number

VDU

video display unit

VFGLA

virtual facility group look ahead

VMS

Voice Message System

VNS

Virtual Network Services

voice-activated dialing (VAD)

A service that allows a user to dial a call using voice only. VAD is an AIN 0.2 service driver and it may include the following capabilities: (1) speaker-dependent recognition of a name, which may be associated with any string of digits, including a vertical service code or a directory number; (2) speaker-independent recognition of digits. *See also* voice-activated network control (VANC).

voice-activated network control (VANC)
A service that allows a user to control the vertical features of a call by speaking a service name, which the network detects using speaker-independent recognition. There are two categories of VANC: initial VANC and extended VANC. *See also* initial voice-activated network control (VANC), extended voice-activated network control (VANC), and voice-activated dialing (VAD).

VSC
vertical service code

W entries

WAN
wide area network

wide area network (WAN)
A large-scale, high-speed communications network used primarily for interconnecting local area networks (LAN) located in different cities or nations. *See also* local area network (LAN).

DMS-100 Family

Advanced Intelligent Network Service Enablers

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