NIS-Q209-2

DMS-100 / SL-100
ACD-MIS

Interface Specification

Version: 11 Status: Standard Date: April 1999

NORTEL
NORTHERN TELECOM

DMS-100 / SL-100 ACD-MIS

Interface Specification

Document number: NIS-Q209-2
Document version: 11
Date: April 1999

Published in United States of America

Publication history

Purpose

This document provides information to MIS manufacturers and designers to allow implementation of an external MIS System which will interwork with an associated DMS-100 or SL-100 based ACD environment.

Note: The software version number and the documentation version number may not match.

Audience

This specification is provided as a guide for network planners and suppliers of systems and equipment designed to meet the requirements of Northern Telecom's DMS-100/SL-100 ACD-MIS Interface Specifications.

Following are the major updates in Version 11:

The Reenqueued TimeOut Feature information was added to the following messages: ACDGroupData Initialization Message, ACDCallOffered, ACDCallAbandoned, and AgentPositionEvent.

Three new Load Management Event Messages were created as well: RENQTOUTChanged, RENQRTEChanged, and RENQAUDChanged.

Following are the major updates in Version 10:

Routing table restrictions were changed. Before this version, users were only allowed to use OFRT and IBNRTE with all of the MIS messaging. With this version, users have the ability to use the following routing tables: OFRT, OFR2, OFR3, OFR4, IBNRTE, IBNRT2, IBNRT3, and IBNRT4.

Following are the major updates in Version 9.1:

This document has been reformatted into seven chapters. The X.409 macro notation for each message that used to reside in Appendix A has been combined with the message description and appears in Chapter 3.

Following are the major updates in Version 9:

A modification was added that enhances the ACD Load Management Change command to allow the end user administrative access to their Login IDs for activation/deactivation. The following ACD-MIS changes resulted:

1. ACDGROUPDATA Initialization Message

a) a new field, LOGINID_PARTITION, will be added to the data sent in this message.

b) the following fields are initialized to -1 if their corresponding options are not subscribed:

- MAXCQLMT
- MAXVQLMT
- SERVICE
- MAXVQSIZE
- RANTH
- WAIT_THRESHOLD
- QUEUE_THRESHOLD
- SRVRATE
- NUMIDLE
- TIMEIDLE
- GROUP_PWF
- GROUP_RI
- SRC_BEST_GRP

2. WRPTIMECHANGED LoadMgmt Event Message - will be changed so that these fields will now show the primary ACD_DN of the ACDGRP datafilled in the MISGROUP option for the Login ID.

3. CHANGEACTIVATE Remote LoadMgmt Request - new message so the CHANGEACTIVATE command can be issued remotely.

4. ACTIVATECHANGED LoadMgmt Event Message - new message to inform the MIS whenever a Change Activate command has been completed.

Following are the major updates in Version 8:

- The ACDCallOffered message has had the CSTATUS field modified to accommodate message information changes:
  - A new CALL_OFFERED_CSTATUS (19) has been added to identify that a previously offered call is being added back to the queue before being answered. The call being added to the INCALLS queue was

presented to an agent and not answered and is being diverted to be answered by another attendant.

— A new CALL_OFFERED_CSTATUS (20) has been added to indicate that a call has been deflected to another ACDGRP group using the enhanced overflow feature.

— The meaning of an old CALL_OFFERED_CSTATUS (2) has been modified to now indicate that a call is deflected to another ACDGRP group using a threshold route programmed in table ACDGRP.

- The Call Offered message has been updated to modify the destination group parameterin situations where an ACD call is Timed Overflowed to another group (see Chapter 7, scenario 20)

Following are the major updates in Version 7:

- Additional ACD Agent Position Event messages
  — to track unsuccessful conferencing with an ACD supervisor/auxiliary device using the Emergency Key (EMK)
  — to report failed recovery of a logged in agent position's idle status after cold restarts of the switch. This applies to idle agent positions or active agent positions (on ACD or SDN) with Not Ready deactivated before the cold restart.
  — to report agent forced logout when the agent cannot be accessed through the switch to receive a call because of a problem on the switch.
- The addition of ACDCallParked message to the ACD Event messages in order to track call park activities by agents.
- Additional ACDCallOffered and ACDCallAnswered Event messages to track
  — call park recall
  — call transfer recall to the originating agent when the target destination fails to respond.
- The nosLogon password has been increased from a maximum of 8 to a maximum of 16 characters of A-Z, 0-9.
- The Resource Index (RI) range is now 0 to 65535.
- *The AgentPositionEvent message is used to report outbound call events initiated through a host using the CompuCALL switch interface.
- *The ACD event scenarios have been updated to reflect the Not Ready feature being assigned on an optional basis and the Not Ready on SDN (NRONSDN) feature option.

*These changes also apply to previous versions.

Following are the major updates in Version 6:

- Additional ACD Load Management Event/Request messages for forced announcements for incoming calls, time delay threshold routing, and agent/ACD group variable wrap-up time.
- Additional Agent Position Event messages to reflect the use of hunt feature with the EMERGENCY key and to indicate the expiration of the Wrap-Up mode for an agent.
- Increased range of display for Called Name/Number
- Add calling number to ACDCallNetworkAnswered
- *The AgentPositionEvent message is used to report outbound call events initiated through a host using the CompuCALL switch interface.
- *The ACD event scenarios have been updated to reflect the Not Ready feature being assigned on an optional basis and the Not Ready on SDN (NRONSDN) feature option.

  *These changes were introduced in Version 7, but also apply to this version.

Following are the major updates in Version 5:

- Call-transfer information is added to call event messages.
- Calling-number information is added to call event messages.
- Expansion from one to three Line of Business Codes in Call Released Event message.
- *The AgentPositionEvent message is used to report outbound call events initiated through a host using the CompuCALL switch interface.
- *The ACD event scenarios have been updated to reflect the Not Ready feature being assigned on an optional basis and the Not Ready on SDN (NRONSDN) feature option.

  *These changes were introduced in Version 7, but also apply to this version.

Following are the major updates in Version 4:

- Addition of walkaway reason to call-released message.
- Additional NACD change request messages.
- Addition of ACD VFG OM messages.
- Additional ACD LM/RLM events/messages.
- *The AgentPositionEvent message is used to report outbound call events initiated through a host using the CompuCALL switch interface.

- *The ACD event scenarios have been updated to reflect the Not Ready feature being assigned on an optional basis and the Not Ready on SDN (NRONSDN) feature option.

  *These changes were introduced in Version 7, but also apply to this version.

Following are the major updates in Version 3 of this document:

- Networked Automatic Call Distribution (NACD) functionality has been included and a number of associated messages have been added.
- Messages relating to agent subgroups have been added. This capability allows a groups of agents to be divided into subgroups, each with an individual supervisor.
- This Version uses the Primary ACD-DN to identify the ACD groups.
- The following operations are removed:
  - switchSendAudioTab
  - switchSendOfrtTab
  - switchSendIbnrteTab
- *The AgentPositionEvent message is used to report outbound call events initiated through a host using the CompuCALL switch interface.
- *The ACD event scenarios have been updated to reflect the Not Ready feature being assigned on an optional basis and the Not Ready on SDN (NRONSDN) feature option.

  *These changes were introduced in Version 7, but also apply to this version.

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Ordering Information

To order the latest version or additional copies of this document, DMS-100/SL-100 ACD-MIS Interface Specification NT NIS-Q209, you may call 1-800-347-4850 from 8:00 a.m. to 5:00 p.m. Eastern time.

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1.0 Introduction

1.1 Scope and Objectives

This document describes the full requirements and capabilities of the Management Information System (MIS) interface as provided by the DMS-100/SL-100 Automatic Call Distribution (ACD) offering. It is an aid for MIS manufacturers and designers to implement an external MIS System which will work with an associated DMS-based ACD environment.

1.2 Structure and Content of the Document

The document consists of seven chapters.

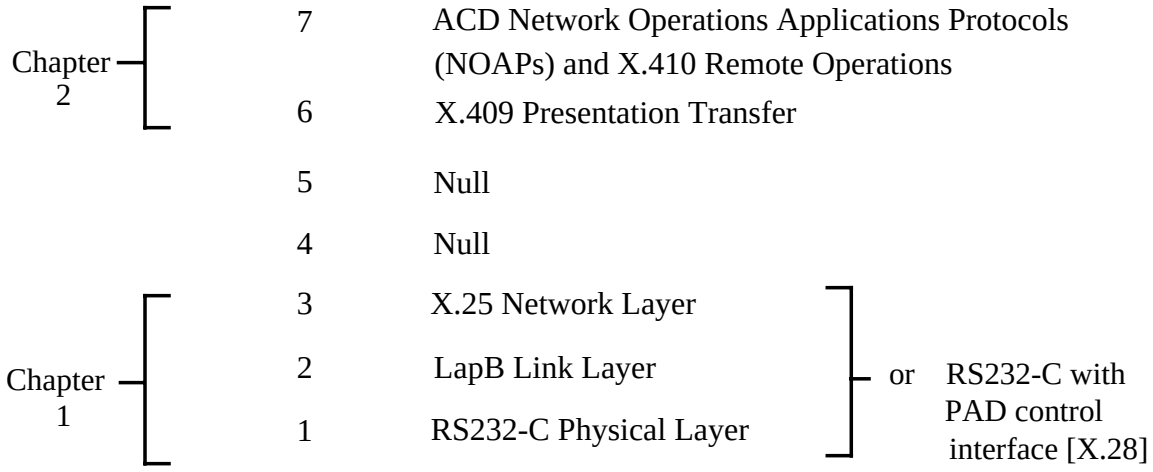
- Chapter 2.0 describes the transport interfaces provided to the attached MIS over which the Chapter 2 messages are transmitted. An X.25 and RS232-Packet Assembler/Disassemble (PAD) interface are provided at this time.
- Chapter 3.0 describes the ACD environment of the DMS-100/SL-100 and defines the messages exchanged between the DMS-100/SL-100 and MIS. The intent of each message is described along with the detailed encoding.
- Chapter 4.0 describes the error codes sent from the switch to the DSP. These error codes are mapped onto a standard template with type, reason, and parameter fields.
- Chapter 5.0 contains encoding examples for remote operations.
- Chapter 6.0 describes ACD-MIS interface states and provides transition diagrams.
- Chapter 7.0 provides a number of typical ACD call scenarios and the associated event messages that are generated by the switch.

1.3 Data Messages versus Transport

This separation of data messages and transport reflects the layered structure of the interface. Data messages are independent of the underlying transport method and are based on the seven layer Open System Interconnection (OSI) model. In the future, Chapters 2.0 and 3.0 may be modified separately without cross impacts.

Figure 1-1 The OSI model as applied to these chapters

The OSI model as applied to these chapters is as follows:



1.4 Specification Control and Update Process Introduction

This document defines the MIS Interfaces as they relate to specific DMS BCS software releases.

- Version 1 defines the BCS26 interface.
- Version 2 defines the BCS27/28* interface.

  *Both BCSs use the same data stream.
- Version 3 defines the BCS29 interface.
- Version 4 defines the BCS30 interface.
- Version 5 defines the BCS31 interface.
- Version 6 defines the BCS32 interface.
- Version 7 defines the BCS33 interface.
- Version 8 defines the BCS34 interface.
- Version 9 defines the BCS35 interface.
- Version 9.1 defines the BCS35 interface.
- Version 10 defines the BCS42 interface.
- Version 11 defines the BCS43 interface.

2.0 Transport Interfaces

2.1 Introduction

This chapter describes the transport capabilities provided from the DMS-100/SL-100 over which the ACD-MIS data can be carried.

As such it specifies the layer 1, 2, and 3 capabilities to the extent necessary for an MIS/DSP system to connect to a DMS-100/SL-100 Switch.

The DMS-100/SL-100 provides an X.25 connection over an RS232-C link as the basic access mechanism to the Switch. Whether this interface is made available to customer MIS/DSP systems or how it is provided, is dependent on the switch operator (i.e., US telephone company etc.).

Factors which influence this are likely to be:

- Tariff filings
- Customer specific requirements
- Use of a Packet Network
- Distance between Switch and DSP etc.

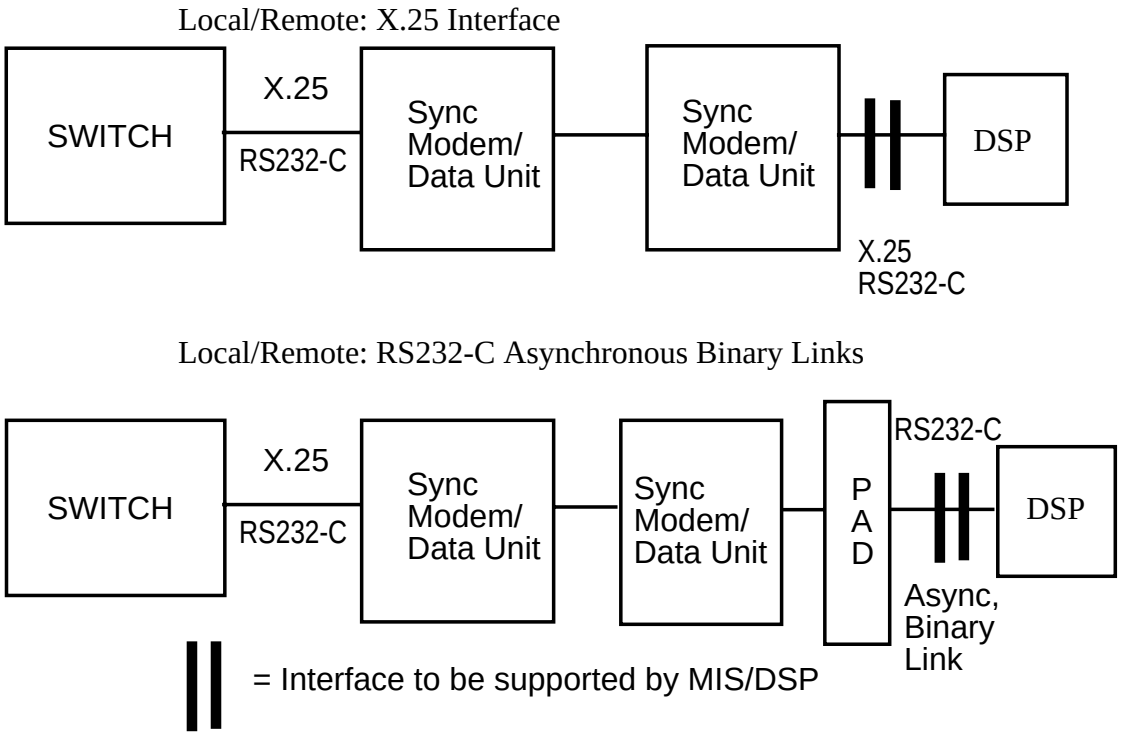
The MIS manufacturer should contact relevant switch operators/telephone companies to identify and confirm specific interface standards. However, it is NT's understanding (but no commitment is implied) that the following interfaces should be supportable by a DSP:

1 Local/Remote: X.25 Interface at DSP

2 Local/Remote: RS232-C Asynchronous Binary Links from a PAD

The characteristics of these interfaces, as required to be understood by the DSP, are described in this section.

Figure 2-2 Basic Switch to DSP transport options



It should also be noted that the X.25 transmission path may be supported over either a direct link or over a packet switched network. However in case of Bellcore Publication 54001, see Section 2.3. It will be necessary to confirm compatibility with the particular packet switched network because this implementation of X.25 supports a (non-standard) default packet size of 256 bytes, and a Data Network address size of 8 digits which is associated with both calling and called addresses.

2.2 General Concepts of the ACD-MIS Interface

2.2.1 Virtual Circuits

In order to establish a data session with the Switch, the DSP must first set up a virtual circuit to the DMS. Currently the DMS/SL-100 NOP/MIS Interface supports only Switched Virtual Circuits (SVC). To establish a data session on an SVC, the DMS/SL-100 must receive an SVC request (nosLogon) message which is used for security validation before a session is established.

2.2.2 Transmission Facilities Used

As indicated in Section 2.1, the Switch provides an X.25 interface which may be terminated locally or remotely. In the case of remote terminations a synchronous modem, data unit, or a Packet network facility can be used.

Definition of the functions specific to these forms of transmission facilities is beyond the scope of this document.

The DSP manufacturer should consult the switch operators, network operators, and ACD customers and also refer to relevant US standards.

2.2.3 Bandwidth Requirements for the Interface

The bandwidth requirements of the interface are dependent upon a number of factors, including:

- Message sizes
- Frequency of transmission of messages
- Call Rates
- Number of agents
- Agent activity etc.
- Number of administrative commands, etc.

The requirements will vary from customer to customer.

This section provides basic information in identifying the quantity of data involved. It is up to the DSP manufacturer, in conjunction with the ACD customer, to decide upon the appropriate bandwidth.

The following information is provided to determine the required bandwidth.

2.2.3.1 Message Size

The following sample event messages are considered to be the most frequently used. The size (see note below) of these messages include 12 bytes for overhead.

1	ACDCallOffered	68 bytes
2	ACDCallAnswered	62 bytes
3	ACDCallNetworkAnswered	44 bytes
4	ACDCallAbandoned	50 bytes
5	ACDCallReleased	58 bytes
6	ACDCallBlocked	40 bytes
7	ACDAgentPosition Event	32 bytes
8	ACDCallParked	30 bytes

2.2.3.2 Typical Call Scenarios:

The following provides some typical call scenarios with their associated event messages.

1 Call Type 0: (Local)

Group A
CallOffered
CallAnswered
CallReleased

2 Call Type 1: (Immediate overflow)

Group A	Group B
CallOffered	CallOffered
	CallAnswered
	CallReleased

3 Call Type 2a: (Time delay overflow, answered at group A)

Group A	Group B
CallOffered	CallOffered
CallAnswered	CallNetworkAnswered
CallReleased	

4 Call Type 2b: (Time delay overflow, answered at group B)

Group A	Group B
CallOffered	CallOffered
Call NetworkAnswered	CallAnswered CallReleased

5 Call Type 3a: (Immediate then time delay overflow, answered at Group B)

Group A	Group B	Group C
CallOffered	CallOffered	CallOffered
	CallAnswered	CallNetworkAnswered
	CallReleased	

6 Call Type 3b: (Immediate then time delay overflow, answered at GroupC)

Group A	Group B	Group C
CallOffered	CallOffered	CallOffered

CallNetworkAnswered	CallAnswered CallReleased

Note: If a call is abandoned then the CallAbandoned message replaces the CallNetworkAnswered or the CallAnswered, CallReleased pair.

Groups A, B, and C can or cannot be on the same switch. One, two, or three switches can be involved.

2.2.3.3 Bandwidth Calculation Parameters and Considerations

- Full Duplex Link
- The vast majority of the messages flow from the Switch to the MIS. Therefore it is the dominant path.
- The quantity of administration messages are negligible compared to call event messages.
- Determine the average number of calls/hour, by call type.
- Determine the average number of bytes / message.
- Assume 80% occupancy of link.

2.2.3.4 Sample Bandwidth Calculation (using average figures)

Formula:

Bandwidth =

[BSBH Ave. Calls/Hr / 3600]
x [Ave # Msg. / Call]
x [Ave # Bytes / Msg.]
x [8 Bits / Byte]
x 80% occupancy

Example Calculation:

- BSBH average number calls/hour - 1800 (BSBH = Busy Season Busy Hour)
- Average number messages/call - 4 (See note)
- Average number bytes/message - 51 (See note)
- Occupancy - 80%
- 3600 seconds/hour

Bandwidth =

[1800 / 3600]
x 4
x 51
x 8
x [10 / 8]

= 1020 bits/sec.

Therefore a 1200 baud link is required.

Note: This example assumes 4 messages are sent:

— ACDCAllOffered 68 bytes 100% of the time

— ACDCallAnswered 62 bytes 100% of the time

— ACDCallReleased 58 bytes 100% of the time

— ACDAgentPosition Event 32 bytes 50% of the time

2.3 X.25 Interface

2.3.1 Introduction

This section provides all information necessary for a DSP to initiate and maintain an X.25 Virtual Circuit for the configuration given below:

Figure 2-3 Switch to DSP connection configuration with Data Units

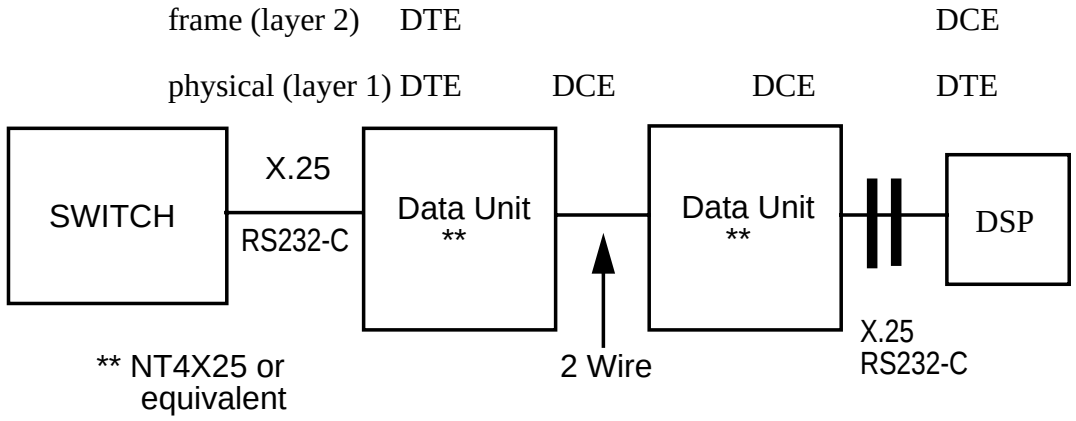
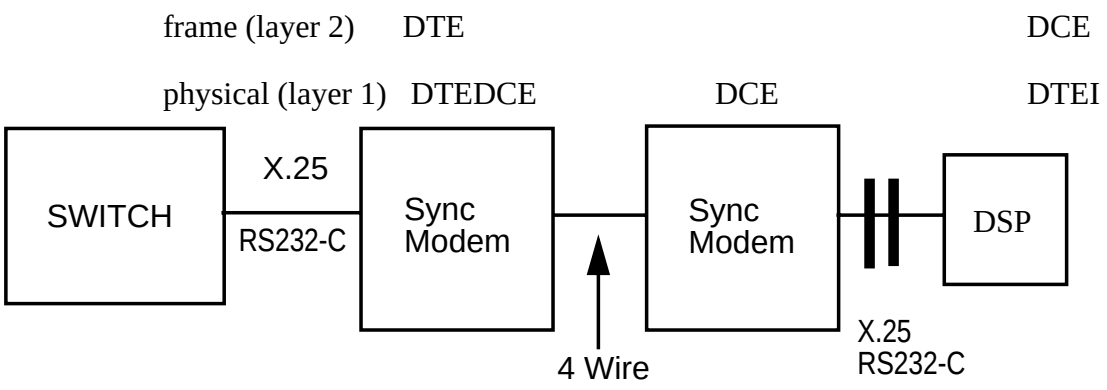


Figure 2-4 Switch to DSP connection configuration with Synchronous Modems



Note: In Figure 2-3 and Figure 2-4, the DSP provides the protocol conversion etc. that is provided by the PAD as shown in Figure 2-5.

2.3.2 Layer 1 (Physical Layer) Characteristics

- Characteristics as supported by the selected synchronous modems.
- The DSP must act as a DTE at the physical layer (See Figure 2-3 and Figure 2-4).

2.3.3 Layer 2 (Frame Layer) Characteristics

- The DSP must act as a DCE at the frame layer (See Figure 2-3 and Figure 2-4).
- Frame Window = 7
- Base Logical Channel Number = 1
- Number of Logical Groups = 0
- Number of Logical Channels = 1

2.3.4 Layer 3 (Packet Layer) Characteristics

- Packet size = 256 bytes (Bellcore Publication 54001, see Section 2.3.5) = 128 bytes (CCITT Recommendation X.25, see Section 2.3.5)
- Packet window = 7 (for SVC link) or 2 (for data network connection)

2.3.5 Standards

- Bellcore Publication 54001, BX.25 Issue 3, Addendum A.

Note: DMS X.25 is not fully compatible with BX.25 such as the standard default packet size of 128 bytes.

Note: Use of Bellcore Publication 54001 X.25 interface is not recommended for new installations.

— CCITT Recommendation X.25 - 1980

— CCITT Recommendation X.25 - 1984

Note: The desired X.25 interface is selected by the switch operator on the Switch for the ACD-MIS service.

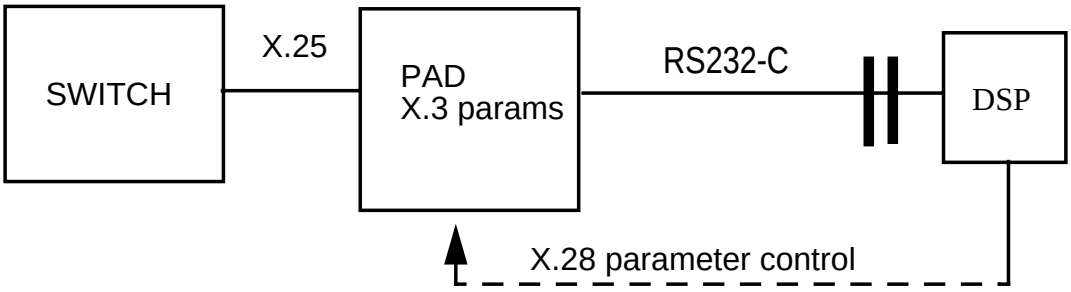
- For modem interface specifications, see service provider specs, etc. This is beyond the scope of this document.

2.4 RS232-C/PAD Interface

2.4.1 Introduction

This section provides all information necessary for a DSP to initiate a connection with the switch for the configuration given below. The requirement is for the DSP to support the interface to the PAD

Figure 2-5 Connection Diagram



2.4.2 Layer 1 Characteristics

RS232, Asynchronous link, running at customer selected speed.

Other interface characteristics are as defined by the deployed PAD.
The Memotec SP/830 Asynchronous Communication system can be taken as a representative device. However, other devices may be deployed.

2.4.3 Data Transmission Characteristics

Each X.25 packet received by the PAD is transmitted to the DSP over the RS232-C link as a binary bit stream, with all X.25 message headers, etc., removed., i.e. the byte stream is as defined for each message in Chapter 3.0 of this document:

Additional characteristics are:

- No parity
- Character Length = 8 bits

- Stop bit = 1
- Forwarding packet size

  = 256 bytes (Bellcore Publication 54001, see Section 2.3)

  = 128 bytes (CCITT Recommendation X.25, see Section 2.3)
- No echo from PAD

2.4.4 Controlling the PAD X.3 Parameters

The DSP must use X.28 commands to set up the PAD X.3 parameters as follows:

- Parameter 4, idle timer delay, must be set to value 4, i.e., four twentieths of a second.
- Parameter 6, suppression of PAD service signals, must be set to value 1 to ensure Service Signals are sent to the DSP.
- All other PAD parameters must be set to 0.

  Note 1: The above values are for the Memotec PAD (i.e., SP/830). However, different versions or different manufacturer's PADs may be deployed and may require different values.

  Note 2: For a PAD to interwork with the DMS/SL-100 NOP/MIS protocol, it must be capable of "intermachine operation" rather than Interactive Terminal Interface (ITI) operation. Therefore, for some PADs (e.g., Memotec SP/8300) to interwork, it will be necessary to have factory programmed parameters such as the "Protocol Version" re-programmed from ITI to inter-machine operation.

The MIS manufacturer should ascertain the exact type of PADs and version of X.3, X.28 that is supported by the telephone companies and used by prospective customers.

3.0 ACD Environment and Message Content

3.1 Introduction

3.1.1 Scope and Objectives

This chapter provides an overview of the Switch to MIS environment for Automatic Call Distribution (ACD) and Networked ACD (NACD). It defines the messages exchanged between the DMS-100/SL-100 ACD Service and an external ACD Management Information System (ACD-MIS).

The reader of this document should be able to obtain a good understanding of the following:

- ACD and NACD environments on a DMS-100/SL-100 as it relates to an MIS System.
- The basic associations between this environment and communications paths established between the DMS-100/SL-100 and the MIS (See also Chapter 2.0).
- Message contents and encoding.

3.1.2 Structure and Content of Chapter 3

This section provides information to the MIS manufacturer that will assist in understanding the ACD environment on the Switch (DMS-100/SL-100). In many cases, this will not directly impact the MIS implementation, but it is useful in order to put the detailed information of the following sections into context. It also provides an overview of the message encoding scheme used for the messages described in subsequent sections.

Section 3.2 describes the functions required to set up and clear down an MIS to Switch Session.

Section 3.3 and Section 3.4 describe the messages exchanged between the Switch and the MIS, at a high level.

3.1.3 Overview of ACD

ACD (Automatic Call Distribution) allows call agent answering positions to be assigned to specified call queues. Incoming calls are routed to the relevant queue based on the number dialed. The calls are then answered in priority, First In First Out (FIFO) order by the most idle agent.

3.1.4 Overview of NACD

NACD (Networked ACD) extends this general capability so that incoming calls can be answered either by the recipient NACD group or by an alternate selected “better group”. The NACD groups exchange information on a near real time basis which defines each group's ability to answer calls. This information is called the Resource Index(RI). Whenever a call is to be subject to network treatment, the group handling the call selects the best alternate group based on the RI values. The call is then logically queued to this alternate group and will be physically routed to that group if an agent becomes free. In some cases, the best group from a call answering perspective cannot be a preferred group when other factors such as trunk availability, Time of Day routing, costs, etc., are taken into account. A Preference Waiting Factor (PWF) is used to allow for this, and hence modify (in some cases) the alternate group selection.

> Note: The NACD group can be on the same Switch or on different Switches.

3.1.5 ACD and NACD Interface Requirements

The intent of the MIS Interface is to provide information to the MIS describing the operation of the Switch based capabilities. The interface also supports the input of commands and data from the MIS to the Switch.

The requirements for the interface change as the Switch based functionality is extended and also as the MIS requires more data to generate additional reports, etc. This document defines the ACD and NACD requirements for BCS33.

3.1.6 Operational Configurations

The exact ACD configuration to be supported depends upon a number of options, namely,

- ACD and/or NACD
- The Operating Company service concept/offering
- Customer's requirements and agent distribution, etc.
- Switch Configurations
  - — Single Switch
  - — Single Switch and Remotes
  - — Multiple Switches in either an ACD or NACD environment.

Section 3.1.7 provides a description of the ACD environment in the Switch in order to assist manufacturers in understanding the environment with which the MIS must interact.

Additionally, the following points are provided to show potential options that manufacturers can consider in their MIS design:

- A customer can run ACD on a number of switches.
- A Switch supports multiple customers.
- Switches in both an ACD and NACD environment can be geographically dispersed.
- In an NACD environment local (per Switch) information and control can be required as well as some form of centralization. Whether this mix is required and the exact configuration provided to support it is an MIS development decision.

3.1.7 Structure of the DMS ACD Environment

3.1.7.1 Introduction

The ACD Structure is composed of the following key entities:

- Groups
- Subgroups
  - — Pools
  - — Sub Pools
  - — Queues
  - — Agents
  - — Supervisors
  - — Customers.

In addition to the above, NACD provides for an additional set of relationships which identify the association of groups which form an NACD environment.

The following text defines their overall structure. “Switch-to-MIS Data Sessions” on page 35 relates this structure to the Switch-to-MIS sessions supported by this interface.

3.1.7.2 ACD Groups, Agents, Customers, Queues

- A group is identified by a Primary Directory Number (PDN) and up to 16 Supplementary Directory Numbers (SUPPDN).
- Call Answering agents are assigned to a group and answer calls for that group when logged on.

— A group contains the following queues:

— Incoming Call Queues (Priority 0-3)

— Overflow Out Queues

— Overflow In Queues (Priority 0-3)

— Call Transfer priority Queue (CTQ)

- A customer owns one or more groups on the relevant switches that support the customer ACD environment.
- Subgroups of agents are set up and assigned to individual supervisors.

Table 3-1 Basic DMS-100/SL-100 Sizing

	CCM05	CCM06	CCM07
Max. No. of Groups	256	256	1024
Max. No. of Agents per Group	256	256	1024
Max. No. of Subgroups per Group	255	255	255
Max. No. of Supervisors per Subgroup	1	1	1
Max. No. of Agents per DMS-100/SL-100	4000	5000	9999

3.1.7.3 ACD Pools and Subpools

An ACD pool is associated with a single Switch-to-MIS virtual circuit (see Section 3.1.8).

A virtual circuit supports data for only one pool (see also Section 3.1.8).

There is a maximum of 32 or 60 pools per Switch depending on the Switch hardware configuration NT40 or SuperNode.

Each ACD pool can be divided into subpools which allow for differentiation of data within a pool. There is a maximum of 128 subpools per Switch, allocated to the assigned pools by the Switch administrator.

Groups are assigned to subpools. Subpools are assigned to pools. A pool can contain one or more subpools. Association of individual customers or departments within a customer to a pool/subpool is achieved as a result of assigning groups to a subpool.

Figure 3-6 ACD Relationships - Customer, Groups, Agents, Supervisors

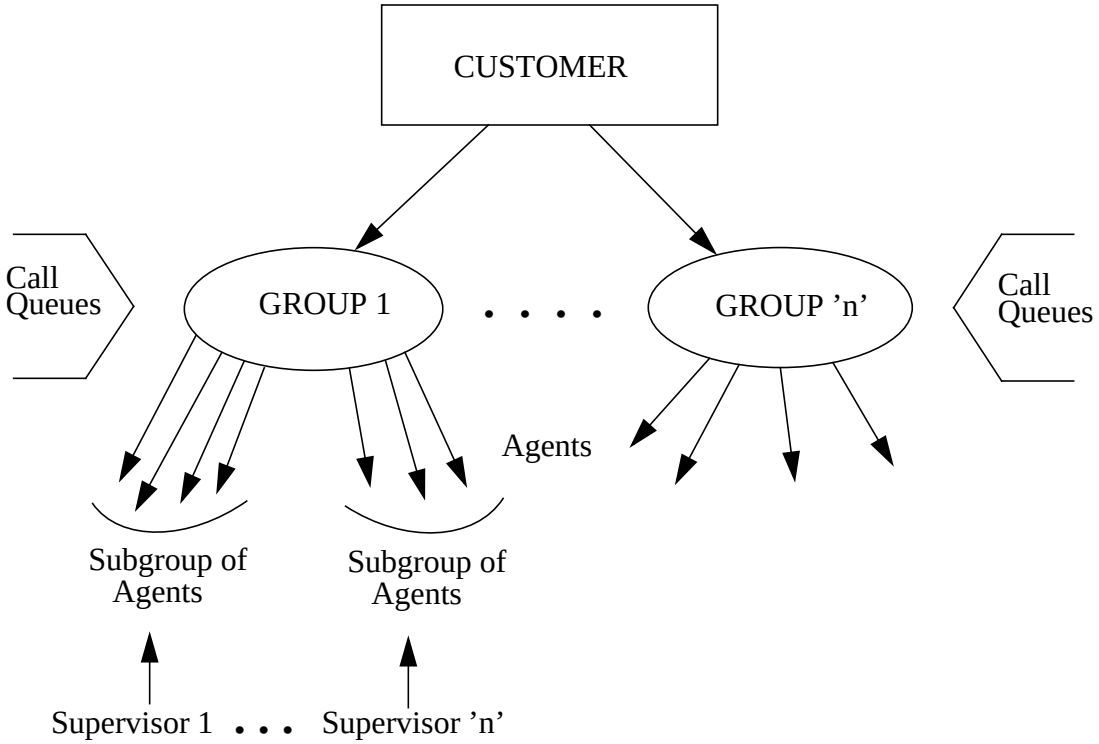
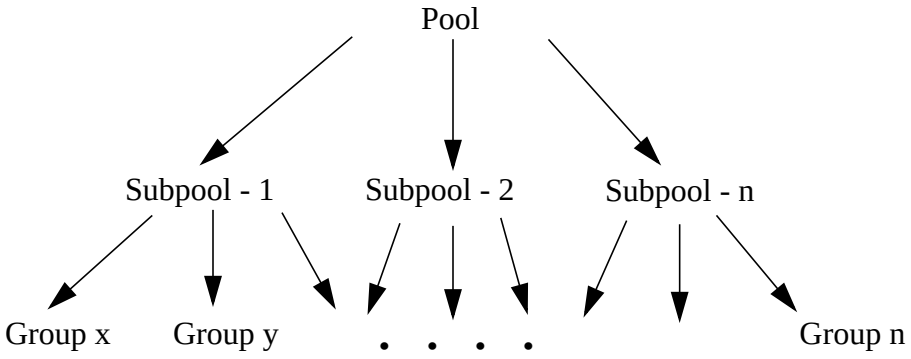


Figure 3-7 Pool, Subpool, and Group Relationships



3.1.8 Switch-to-MIS Data Sessions

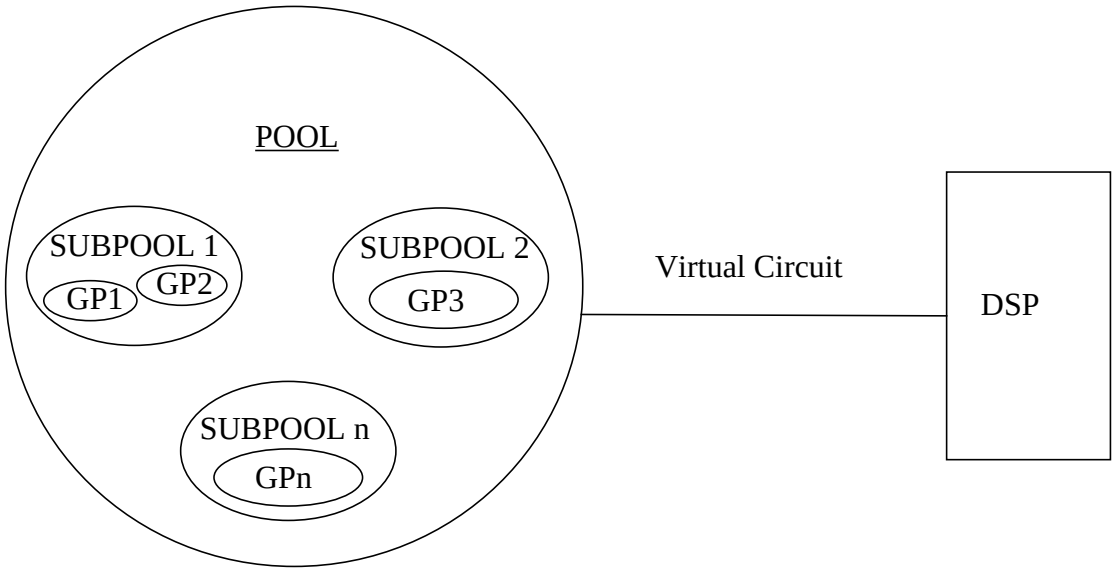
An MIS initiates a Data Session to a Switch by first establishing a Virtual Circuit. Exactly how this is achieved depends upon the type of interface offered by the Switch operator and also on the MIS capabilities (see Section 3.2 for details).

Once the Virtual Circuit is set up, the MIS logs onto the Switch (see Chapter 2.0) and then identifies which Pool it wishes to support over the Virtual Circuit.

The Pool identifications (ASCII Strings) are assigned by the Switch operator. The MIS will need to maintain a list of assigned pool identifications. Obtaining and installing Pool id's in the MIS is not the responsibility of the Switch to MIS interface.

It is the MIS and MIS operator's responsibility, in conjunction with the Switch operator, to agree on the Virtual Circuit, Pool configuration, SubPool Name, Password etc. to be supported between the MIS and the Switch.

Figure 3-8 Pool, Subpool, Virtual Circuit Association



3.1.9 Data Session Control and Message Format

3.1.9.1 Introduction

Sections 3.1.6, 3.1.7, and 3.1.8 describe the overall DMS-100/SL-100 ACD environment and introduce the concept of an MIS establishing a Virtual Circuit connection to the Switch. Before this virtual circuit can be used to exchange messages it is necessary for the MIS to logon to the Switch and establish its credentials to receive the requested information. This is the logon (and associated logoff) process which is described in Section 3.2 on page 42.

Once logon is accomplished the Switch to MIS interface then runs in its normal operational mode, exchanging data and control messages. These messages have a specific protocol format and encoding as defined by X.409 and X.410 (these protocols are compatible with the new X.208, X.209, X.219, and X.229 protocols). Sections 3.1.9.2 and 3.1.9.3 provide a brief description of these protocols for information purposes. Sections 3.2, 3.3, and 3.4 follow these protocols to define the message contents down to the byte level which represents the actual bit stream to be handled by the MIS.

3.1.9.2 X.410 Operation Protocol Data Unit (OPDU) Overview

Before presenting the details of the ACD MIS Data Stream Protocol, a brief overview of the X.410 OPDUs is provided.

Four types of Operation Protocol Data Units (OPDUs) are defined: an Invoke; a Return Result; a Return Error; and a Reject. The X.410 formal definition of an OPDU is as follows:

OPDU ::= CHOICE { [1] Invoke,

[2] ReturnResult,

[3] ReturnError,

[4] Reject }

3.1.9.2.1 Invoke

The Invoke OPDU requests that an operation be performed. It is sent whenever one application desires assistance from another. An application need not wait for one operation to be completed before invoking another. At any point in time an application can have any number of operations in progress at a particular remote application.

The X.410 formal definition of the Invoke OPDU is as follows:

Invoke ::= SEQUENCE {InvokeID INTEGER, OPERATION, argument ANY}.

The “InvokeID” element specifies the invoke identifier assigned to the operation (invocation). It distinguishes the present operation from others the invoking application can have in progress at the time of the invoked application.

The “OPERATION” element specifies the operation to be performed and distinguishes it from other operations which the invoked application is capable of providing. This value must agree with that which is specified in the application's defining recommendation.

The “argument” element specifies the operation's argument. Its type must conform to that which is specified in the application's defining recommendation.

3.1.9.2.2 ReturnResult

The Return Result OPDU reports the successful completion of an operation. It is sent in eventual response to an Invoke OPDU. If the latter is well-formed, the operation is one that can either report success only or both success and failure, and the operation succeeds.

The X.410 formal definition of the Return Result OPDU is as follows:

Return Result ::= SEQUENCE { InvokeID INTEGER, result ANY }

The “InvokeID” element specifies the operation (invocation) whose success is being reported.

The “result” element specifies the operation's result. Its type must conform to that which is specified in the application's defining recommendation.

3.1.9.2.3 ReturnError

The Return Error OPDU reports the unsuccessful completion of an operation. It is sent in eventual response to an Invoke OPDU. If the latter is well-formed, the operation is one that can either report failure only or both success and failure, and the operation fails.

The X.410 formal definition of the Return Error OPDU is as follows:

- Return Error ::= SEQUENCE { InvokeID INTEGER, ERROR, parameter ANY}
- The “InvokeID” element identifies the operation (invocation) whose failure is being reported.
- The “ERROR” element specifies the error being reported, distinguishing it from other errors the invoked application reports. Its value must agree with that specified in the application's defining recommendation, and must be one of those specified which can be reported by the operation that was invoked.
- The “parameter” element specifies the error's parameter. Its type must conform to be that which is specified in the application's defining recommendation.

3.1.9.2.4 Reject

The Reject OPDU reports the receipt and rejection of a malformed OPDU. It is sent in eventual response to a malformed OPDU whose type is other than a Reject.

The X.410 formal definition of the Reject OPDU is as follows:

```
Reject ::= SEQUENCE
    { InvokeID CHOICE { INTEGER, NULL },
    problem CHOICE

    {[0] IMPLICIT General Problem,
     [1] IMPLICIT Invoke Problem,
     [2] IMPLICIT ReturnResultProblem,
     [3] IMPLICIT ReturnErrorProblem } }
```

- The “InvokeID” element specifies the invoke identifier carried by the rejected OPDU. If none was present, the element is of type Null and has a value of NULL.
- The “problem” element specifies the reason the OPDU was rejected. The problems are categorized by OPDU type.

The following general problems are reported:

```
General Problem ::= INTEGER
                    { unrecognized OPDU (0),
                     mistyped OPDU (1),
                     badlyStructuredOPDU (2) }
```

The problem “unrecognized OPDU” signifies that the type of the OPDU, as evidenced by its Identifier, is not one of the four defined in the X.410 recommendation. The problem “mistyped OPDU” signifies that the structure of the OPDU does not conform to the X.410 recommendation. The problem “badlyStructuredOPDU” signifies that the structure of the OPDU does not conform to the X.409 recommendation.

The following Invoke OPDU-specific problems are reported:

```
Invoke Problem ::= INTEGER
                   { duplicate Invocation (0),
                   unrecognizedOperation (1),
                   mistypedArgument (2) }
```

The problem “duplicate Invocation” signifies that the invoke identifier violates the assignment rule of Section 3.1.9.2.1 on page 37. The problem “unrecognizedOperation” signifies that the operation is not one of those specified in the application's defining recommendation. The problem “mistypedArgument” signifies that the type of the operation argument supplied is not that specified in the application's defining recommendation. The following ReturnResultProblem OPDU-specific problems are reported:

```
ReturnResultProblem ::= INTEGER
                        { unrecognized Invocation (0),
                        resultReponseUnexpected (1),
                        mistypedResult (2) }
```

The problem “unrecognized Invocation” signifies that no operation with the specified invoke identifier is in progress. The problem “resultResponseUnexpected” signifies that the invoked operation does not report success. The problem “mistypedResult” signifies that the type of the operation result supplied is not that specified in the application's defining recommendation.

The following ReturnError OPDU-specific problems are reported:

```
ReturnErrorProblem ::= INTEGER
                        { unrecognizedInvokation (0),
                        errorResponseUnexpected (1),
                        unrecognizedError (2),
                        unexpectedError (3),
                        mistypedParameter (4) )
```

The problem “unrecognized Invocation” signifies that no operation with the specified invoke identifier is in progress. The problem “errorResponseUnexpected” signifies that the invoked operation does not report failure. The problem “unrecognizedError” signifies that the reported error is not one of those specified in the application's defining recommendation. The problem “unexpectedError” signifies that the reported error is not one that the invoked operation can report. The problem “mistypedParameter” signifies that the type of the error parameter supplied is not that specified in the application's defining recommendation. See Chapter 5.0 for details.

3.1.9.3 Message Protocol

The message protocol identifies the following:

1 Remote Operations (ROs) used,

2 Feature/Functions supported by the ROs,

3 When the ROs are used,

4 Parameters required.

This information is as follows and in the subsequent Sections of this document.

The ACD MIS Remote Operation (ROs) are categorized as follows:

1 ROs prefixed with “nos”.

These are Session Control ROs that are sent FROM the DSP TO the Switch. See Section 3.2.

2 ROs prefixed with “switch”.

These are ROs that are sent FROM the Switch TO the DSP for functionality the DSP provides to the Switch, i.e. Switch initiated request. See Section 3.3.

3 ROs prefixed with “dsp”.

These are ROs that are sent FROM the DSP TO the Switch for

functionality the Switch provides to the DSP, i.e., MIS initiated request. See Section 3.4.

3.1.10 Implementation Restrictions/Limitations

The following restrictions are placed on the ACD Management Information System Data Stream application protocol:

1 The largest LENGTH field in a switch generated RO is two (2) bytes.

2 Invoke Ids in both the Switch and DSP generated OPDUs must be in the range of 0 to 127 (decimal). See Section 3.1.9.2.1 on page 37.

3 No more than a combined total of 10 ROs originated either by the DSP or the Switch that require a reply can be outstanding and not responded to at any one point in time. If the DSP is making use of the application throttling with the switchSendThrottle RO, then the DSP should not have more than 9 ROs outstanding and not replied to at one time. This will leave space in the 10 limitation for the switchSendThrottle to be transmitted by the Switch.

The DSP can choose to make use of the application throttling mechanism by setting the throttle value in the dspAssociatePool RO to a value ranging from 1 to 127. If zero is selected, then the switch originated ROs, and ReturnResult, ReturnErrors to the DSP originated ROs are not throttled. If a non-zero value (NN) is specified, then the throttling does occur via the switchSendThrottle RO for the duration of the ACD MIS session. The switchSendThrottle RO will be sent every 'NN' messages to the DSP, at which point, the Switch will not transmit any more ROs until it receives a ReturnResult from the DSP for that RO.

If 10 ROs requiring a reply are outstanding, and either the Switch received another DSP generated RO that requires a reply, or the Switch attempts to transmit a switchSendThrottle RO, the Switch will take down the X.25 session.

4 A Reject OPDU can be sent in response to any of the ROs. Please refer to Section 3.1.9.3, “Message Protocol,” on page 40.

5 The ACD information sent relays details of ACD events that are occurring in the Switch. The ACD event information is transmitted as soon as possible after the events occur. However, if the Switch is heavily loaded with call traffic when the ACD event occurs, there can be a delay between the time that an ACD event occurs and the time that the event information is transmitted to the DSP. The transmission delay encountered depends on the call traffic load on the Switch.

6 The ACD Management Information System Data Stream is a means of providing a DSP with information in near real time of ACD events occurring in the Switch. If anything happens such that the Switch cannot

transmit event information to the DSP (e.g., data link goes down, DSP crashes), the information about events that occur which the Switch cannot communicate with the DSP will be lost because the Switch will not save the information until such a time that the communication is re-established.

7 If DSP originated ROs are still outstanding when the Switch receives a valid nosLogout RO, the responses to the DSP originated ROs will not be transmitted to the DSP. The DSP will only receive a response to the nosLogout RO. Please refer to Section 3.2.2, “nosLogon (Operation Value “40” Hex),” on page 43.

8 The Subpool Number to Subpool Name association can change across Switch “Dump and Restores”. For example: In BCS “X”, ACD Subpool “Subpool 1” has a Subpool Number of 25. In BCS “X+1” ACD Subpool “Subpool 1” can or cannot have the same ACD Subpool Number associated with it. Please refer to Section 3.3.2.1.1, “switchSendSubPoolData X.409 notation,” on page 50.

9 The dspRequestLoadMgmt ROs are handled in the Switch as batch results. Hence, there can be a delay before a dspRequestLoadMgmt RO is executed in the Switch and a ReturnResult or Return Error is transmitted back to the DSP.

10 There can be only be one (1) Remote Operation (RO) per X.25 packet.

3.2 Session Control Remote Operation

3.2.1 Introduction

Once an X.25 Virtual Circuit is established, the DSP must “logon” to set up the Data Session. The DSP can “logoff” at any time and, providing the Virtual Circuit is still up, can log back on again.

The Switch cannot initiate a logon or logoff. The Switch can however, drop the X.25 link, which would force the DSP into a 'Not Logged On or Connected State'.

There are two ROs defined for this session control, namely: a) NOSLOGON and b) NOSLOGOUT.

a. The NOSLOGON command establishes a communication session between the Switch and the DSP. The logon operation is used for security control and must be executed before any other remote operations can be executed by the Switch.

b. The NOSLOGOUT command takes down a communication session. After the Switch executes this command, no further ACD-MIS remote operations can be executed until the DSP issues another noslogon command.

3.2.2 nosLogon (Operation Value “40” Hex)

To establish a communications path between the DSP and the Switch, the DSP is responsible for initiating and setting up the X.25 Virtual Circuit (VC). The DSP must then execute a nosLogon Remote Operation (RO) on the X.25 VC to establish the data session. The logon operation is used for security control and must be executed before any other ROs can be executed by the Switch. After the Switch executes a nosLogon for ACD MIS, the VC will only be used for transfer of ACD-MIS ROs until a nosLogout is received.

The Arguments required to Invoke the nosLogon operation are:

- Protocol_Version
- Userid
- Password
- Profile

Where:

ProtocolVersion (Note 1) the NOP protocol version in the DSP (8 characters).

Userid (Note 1) DSP userid (5 <= userid <= 8 characters).

Password (Note 1) the combination of the Userid and Password is used by the Switch to enforce access security - i.e. to prevent an unauthorized customer from gaining access to the Switch (5 <= password <= 16 characters of A-Z, 0-9).

Profile this parameter identifies the “activity” to follow - i.e. ROs related to file transfer, ROs related to alarms and reports, ROs related to the ACD / NACD Management In formation System Data Stream, etc. (Profile = 7 for the ACD system).

The ReturnResult expected from the nosLogon operation contains:

ProtocolVersion (Note 1) the NOP protocol version the Switch is running.

NetworkEquipmentSoftwareVersion Note (1)

The ReturnErrors for a nosLogon operation can be (choice of):

invalidArgument e.g. unrecognized Userid or incorrect Password.

operationSequenceProblem e.g. a valid nosLogon operation was previously executed on this “connection” and has not been terminated with a nosLogout operation.

systemProblem Switch system problem.

applicationResourceShortage e.g. the logon operation can not be completed because some system limit on the maximum number of nosLogon operations has been exceeded.

Note 1: It is assumed that a nosLogon operation in the Switch is effectively terminated (i.e. partially completed ROs are assumed to be implicitly aborted) after a Reliable Transfer Server (RTS) exception.

Note 2: These fields will be defined by the Switch operator in conjunction with the ACD customer. The DSP system must hold this information in its datastore for use at logon time.

3.2.2.1 nosLogon X.409 notation

```
nosLogonOPERATION
    ARGUMENT SEQUENCE
        { ProtocolVersion,
        Userid,
        Password,
        Profile }
    RESULT SEQUENCE
        { ProtocolVersion,
        NetworkEquipmentSoftwareVersion }
    ERROR
        { invalidArgument,
        operationSequenceProblem,
        systemProblem,
        applicationResourceShortage }
    ::= 64
```

3.2.2.1.1 ProtocolVersion

```
ProtocolVersion ::= IA5STRING
        -- Up to 8 characters.
```

3.2.2.1.2 Userid

```
Userid ::= IA5STRING
        -- i.e. An ASCII encode string.
        -- String length must be >= 5 characters and <= 8 characters.
```

3.2.2.1.3 Password

```
Password ::= IA5STRING
        -- String length must be >= 5 characters and <= 16 characters.
        -- Valid characters are capitalized A to Z, and digits from 0 to 9.
```

3.2.2.1.4 Profile

Profile ::= INTEGER
{ acdmr (7) }
-- If ACD MIS Data Stream.

3.2.2.1.5 NetworkEquipmentSoftwareVersion

NetworkEquipmentSoftwareVersion ::= IA5STRING
--Maximum length of 8 Bytes.

3.2.2.1.6 invalidArgument

invalidArgument ERROR
PARAMETER SEQUENCE
{ reasonCode INTEGER,
parameter INTEGER }
::= 64

Note: For reasonCode parameters see Section 4.2 on page 201.

3.2.2.1.7 operationSequenceProblem

operationSequenceProblemERROR
PARAMETER SEQUENCE
{ reasonCode INTEGER,
parameter INTEGER }
::= 65

Note: For reasonCode parameters see Section 4.3 on page 202.

3.2.2.1.8 applicationResourceShortage

applicationResourceShortageERROR
PARAMETER SEQUENCE
{ reasonCode INTEGER,
parameter INTEGER }
::= 66

Note: For reasonCode parameters see Section 4.4 on page 203.

3.2.2.1.9 systemProblem

systemProblemERROR
PARAMETER SEQUENCE
{ reasonCode INTEGER,
parameter INTEGER }
::= 67

Note: For reasonCode parameters see Section 4.5 on page 203.

3.2.3 nosLogout (Operation Value “41” Hex)

The logout operation is invoked by the DSP to terminate an established Data Session. After a nosLogout RO is executed, no further ROs can be successfully executed on the X.25 Virtual Circuit (VC) until after a nosLogon RO is received and executed by the Switch. The nosLogout RO will execute successfully anytime after the nosLogon RO has successfully executed on the Switch. Successful execution of the nosLogout RO will terminate the ACD MIS Data Stream application on the VC - the DSP is responsible for terminating the VC after the nosLogout RO has successfully executed in the Switch.

The nosLogout operation does not require an argument.

Explicit parameters are not required in the ReturnResult since the ReturnResult OPDU conveys sufficient information (i.e. the InvokeID) to indicate completion of the nosLogout operation.

The ReturnErrors for a nosLogout operation can contain (choice of):

operationSequenceProblem e.g. a nosLogon operation was not previously executed on this connection.

Exception condition handling The nosLogout operation is assumed to implicitly abort any partially completed ROs.

Once initiated, a nosLogout is irreversible -- i.e. it cannot be refused.

3.2.3.1 nosLogout X.409 notation

```
nosLogoutOPERATION
    ARGUMENT NULL
    RESULT NULL
    ERROR
        { operationSequenceProblem }
    ::= 65
```

3.2.3.1.1 operationSequenceProblem

```
operationSequenceProblemERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 65
```

Note: For reasonCode parameters see Section 4.3 on page 202.

3.3 Messages Sent From The Switch To The DSP

All Remote Operations requested from the Switch and executed on the DSP are fully described by their: command Arguments; the Return Result; and the

Return Error. This Section describes the various command functions, presenting their arguments and their possible values. The following categories of messages are sent to the DSP:

1 SWITCH CONTROL MESSAGES: to synchronize the DSP information with the Switch and also to control the message flow. See Section 3.3.1 on page 47.

2 INITIALIZATION DATA MESSAGES: To initialize the DSP Data structure at startup time, or whenever it is requested. See Section 3.3.2 on page 49.

3 ACD EVENT MESSAGES: To report the events occurring on the Switch. See Section 3.3.3 on page 84.

4 LOAD MANAGEMENT EVENT MESSAGES: To indicate the result of executing a Load management command (executed locally on the DMS-100/SL-100 Maintenance and Administration Position (MAP)). See Section 3.3.4 on page 90.

3.3.1 Switch Control Messages

Control messages are sent from the Switch to the DSP to synchronize the DSP with the Switch, or to control the flow of messages between them. The following messages are included:

1 EndofInit Message. See Section 3.3.1.1 on page 47.

2 SendThrottle Message. See Section 3.3.1.2 on page 47.

3.3.1.1 EndofInit (Operation Value “F” Hex)

The End of Initialization message is sent to notify the DSP that no more initialization data will be sent. The message does not contain any fields.

3.3.1.1.1 switchEndOfInit X.409 notation

```
switchEndOfInitOPERATION
    ARGUMENT NULL
    ::= 15
```

3.3.1.2 SendThrottle (Operation Value “12” Hex)

The Throttle message is sent to control the volume of messages flowing between the Switch and the DSP. Since the Switch generates and sends data potentially much faster than the DSP is able to process, a throttle mechanism to control the message flow from the Switch to the DSP was implemented and works as follows:

- During the execution of AssociatePool Remote Operation, the DSP informs the Switch of how many messages it can handle without causing overflow problems (range: 0 or 1 to 127). If zero is specified then throttling does not occur.

- The Switch sends a dummy throttle message following the specified number of messages, requested by the DSP, and waits for the Return Result.
- Once the DSP processes the accumulated data, it signals the Switch to resume information transfer by sending the Return Result for the throttling message.

The message does not contain any fields.

3.3.1.2.1 switchSendThrottle X.409 notation switchSendThrottle

```
OPERATION
    ARGUMENT NULL
    RESULT NULL
    ERROR
        { operationSequenceProblem,
        systemProblem,
        applicationResourceShortage }
    ::= 18
```

3.3.1.2.2 operationSequenceProblem

```
operationSequenceProblemERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 65
```

Note: For reasonCode parameters see Section 4.3 on page 202.

3.3.1.2.3 applicationResourceShortage

```
applicationResourceShortageERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 66
```

Note: For reasonCode parameters see Section 4.4 on page 203.

3.3.1.2.4 systemProblem systemProblemERROR

```
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 67
```

Note: For reasonCode parameters see Section 4.5 on page 203.

3.3.2 Initialization Data Messages

The following ACD data messages are sent from the Switch to the DSP when the data link is first established and an initialization request is received, or whenever the DSP requests initialization.

3.3.2.1 SubPoolData (Operation Value “B” Hex)

The SubPoolData message provides information on the mapping from an internal subpool number to a subpool Common Language Location Identifier (CLLI). This information is sent for each subpool datafilled in the Switch when the DSP requests initialization. The pool entity to which the subpools belong is known through the logon sequence, since the ID/password combination uniquely identifies the pool number. The ACD subpool data message contains the following fields:

- NODE_ID
- NODE_ID_DN_COUNT
- SUBPOOL_NUMBER
- SUBPOOL_NAME

where:

NODE_ID is the number which identifies the ACD Switch in the network.

NODE_ID_DN_COUNT specifies the number of digits in the NODE_ID.The NODE_ID can be up to ten digits.

SUBPOOL_NUMBER is the internal subpool number with which the subpool CLLI is associated (range: 0 to 127).

SUBPOOL_NAME is the CLLI code (or name) used to uniquely specify the subpool when it is datafilled in the Switch. The CLLI can be a

maximum of 16 ASCII characters. In those cases where the field is less than 16 characters, the end of the field is padded with blanks.

3.3.2.1.1 switchSendSubPoolData X.409 notation

```
switchSendSubPoolDataOPERATION
    ARGUMENT
    { AcdSubPoolData }
    ::= 11
```

3.3.2.1.2 ACDSubPoolData

```
ACDSubPoolData ::= OCTET STRING
        -- Bytes0-4:  node_id
        -- Byte5:  node_id_dn_count
        -- Byte6:  subpool_number
        -- Byte7:  reserved
        -- Bytes8-23:  subpool_name
```

3.3.2.2 ACDGroupData (Operation Value “C” Hex)

The ACDGroupData message provides information on the mapping from the Primary ACD-DN number to an ACD group CLLI as well as information on the current attributes of the ACD group. A message is sent for each group. The message contains the following fields:

NODE_ID
NODE_ID_DN_COUNT
ACD_GROUP_DN
ACD_GROUP_DN_COUNT
GROUP_CLLI
ACD_CONFIG
TRUNK_PRIORITY
MAXWAIT
WAIT_THRESHOLD
TMDELOVFL
PRIOPRO
OVFLTYPE
START
SERVICE
MAXCQSIZE
MAXVQSIZE
QUEUE_THRESHOLD
GROUP_PWF
GROUP_RI
RANTH
LINE_PRIORITY
SUBPOOL_NUMBER
AUDIO_GROUP
THROUTE_INDEX

THROUTE_TABLE
NSROUTE_TABLE
NSROUTE_INDEX
ACD_DN_NAME
ACD_DISPDIGS
MSQS_T1
MSQS_T2
MSQS_T3
MAXCQLMT
MAXVQLMT
CIFROUTE_INDEX
CIFROUTE_TABLE
EH_OVFL_NUM_GROUPS
EH_OVFL_GROUP_ONE
EH_OVFL_GROUP_ONE_DN_COUNT
EH_OFVL_GROUP_TWO
EH_OVFL_GROUP_TWO_DN_COUNT
EH_OVFL_GROUP_THREE
EH_OVFL_GROUP_THREE_DN_COUNT
EH_OVFL_GROUP_FOUR
EN_OVFL_GROUP_FOUR_DN_COUNT
NS_AUDIO_GROUP
CTQSIZE
VFG_COUNT
VFG_INDEX_ONE
VFG_INDEX_TWO
VFG_INDEX_THREE
SRVRATE
NUMIDLE
TIMEIDLE
DFT_LOB_CODE
SRC_BEST_GRP
MSQS_TYPE
DWRPTIME
TMDTHTIME
TMDTHRTE_INDEX
TMDTHRTE_TABLE
ORGANN
FIAUDIO_GROUP
FOAUDIO_GROUP
LOGINID_PARTITION
RENQTOUT_TIME
RENQRTE_INDEX
RENQRTE_TABLE
RENQ_AUDIO_GROUP

where:

NODE_ID is the number which identifies the ACD Switch in the network.

NODE_ID_DN_COUNT specifies the number of digits in the NODE_ID. The NODE_ID can be up to ten digits.

ACD_GROUP_DN is the Primary ACD-DN of the ACD group with which the CLLI and the group data are associated.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The Primary ACD-DN can be up to ten digits.

GROUP_CLLI is the CLLI used to specify the ACD group when it is datafilled. The CLLI can be a maximum of 16 ASCII characters. In those cases where the CLLI is less than 16 characters, the end of this field is padded with blanks.

ACD_CONFIG identifies the group as being ACD or NACD. A zero indicates a nodal ACD group, and a one indicates a networked ACD group.

TRUNK_PRIORITY is the priority assigned to ACD calls that are incoming over trunks that are queued in the Incoming Call Queue (range: 0 for highest priority to 3 for lowest priority).

MAXWAIT is the maximum time in seconds that a call should have to wait in the Incoming Call Queue before being presented to an agent (range: 0 to 1800 sec.).

WAIT_THRESHOLD is the maximum time a call at the head of the Incoming Call Queue can wait before incoming calls are given network service (range: 0 to 1800).

TMDELOVFL is the time that a call is held in the Incoming Call Queue before being logically queued to another ACD group (range: 0 to 1800 sec.). A zero value indicates that the call should be logically queued immediately. If all the bits in this field are set to '1' it indicates that this option is not subscribed.

PRIOPRO is the time during which calls are delayed in a queue before being promoted to a higher priority (range: 0 to 255 sec.). A value of zero means that priority promotion is disabled.

OVFLTYPE specifies the types of call queues to be checked for TMDELOVFL (range: 0 to 1):

0 = ALLPRIO - Calls of all priority queues are overflowed.

1 = PRI0ONLY - Calls of priority 0 are only overflowed.

START specifies when to start timing the call for overflow (range: 0 to 1):

0 = P0ONLY - Indicates that the timer is started when the call reaches the 0 priority only.

1 = IMMEDIATE - Indicates the timer is started immediately when the call is queued.

SERVICE controls the order of serving the calls, (range: 0 to 2):

0 = OVFLIN - Will cause the outflow calls to be serviced first, followed by the incoming overflowed calls, and then the call queues within priority.

1 = P0FIRST - Will cause the outflow calls to be serviced first, followed by the call queue, and then the inflow queue within priority.

2 = OLDEST - compares the physical and the logical queues and answers the older call.

MAXCQSIZE is the maximum number of physical calls that can be queued in the Incoming Call Queue at any given time (range: 0 to 511).

MAXVQSIZE is the maximum number of logical calls that can be queued in the Overflow In Queue at any given time (range: 0 to 511).

QUEUE_THRESHOLD is the maximum number of calls which can be queued before incoming calls are given network service. When this value is exceeded, incoming calls are given network service (range: 0 to 511).

GROUP_PWF is the Group Preference Weighting Factor and has a value (range: 0 to 32767). This value is used to control the group's ability to receive and process Networked ACD calls.

GROUP_RI is the Group Resource Index and has a value (range: 0 to 65535). This value indicates the group's ability to receive and process Networked ACD calls. The Switch calculates and updates this value dynamically. This value is provided at initialization for information. As new values are calculated they will be passed on periodically to the MIS.

RANTH is the duration in seconds that a caller receives audible ringing before hearing a recorded announcement. This field can be set to 0 or 6 to 60. If this value is 0, the caller receives the announcement immediately.

LINE_PRIORITY is the priority assigned to ACD calls incoming over lines that are queued in the Incoming Call Queue (range: 0 for highest priority to 3 for lowest priority).

SUBPOOL_NUMBER is the internal subpool number to which this ACD group is associated (range: 0 to 127).

AUDIO_GROUP specifies the audio group used to provide recorded announcement and/or music to callers in the Incoming Call Queue (range: 1 to 512). If no audio group is specified, this field is set to zero.

THROUTE_INDEX specifies the location of the route list in the routing table (range: 0 to 1023). If all the bits in this field are set to '1', it indicates that this option is not subscribed.

THROUTE_TABLE specifies the routing table used for the threshold route of the ACD group (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

NSROUTE_TABLE specifies the routing table to be used as the night service route for the specified ACD group (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

NSROUTE_INDEX specifies the location of the route list in the routing table used for night service (range: 0 to 1023). If all the bits in this field are set to '1', it indicates that this option is not subscribed.

ACD_DN_NAME is the name for the Primary ACD-DN of the group (15 ASCII characters). If the name is not datafilled or the ACD Name/Called Number Display option is not specified, this field is filled with blanks.

ACD_DISPDIGS specifies the number of ACD-DN digits to be displayed to the agents within the ACD group (range: 0 to 10). If the agent does not have the ACD Name/Called Number Display option, this field will have a value of 255.

MSQS_T1 specifies the 1st threshold of the Multi-Stage Queue Status (MSQS) option to be associated with the ACD group.

MSQS_T2 specifies the 2nd threshold of the MSQS option to be associated with the ACD group

MSQS_T3 specifies the 3rd threshold of the MSQS option to be associated with the ACD group

Table 3-2 MSQS Limits

	MSQS Type	BCS 31-33	BCS 34	BCS 35
MSQS_T1	WAIT	5 TO 2390	5 TO 2390	0, 5 TO 2390
MSQS_T1	CALLQ	1 TO 2398	1 TO 2398	0, 1 TO 2398
MSQS_T2	WAIT	10 TO 2395	T1 + 5	0, T1, T1 + 5
MSQS_T2	CALLQ	2 TO 2399	T1 + 1	0, T1, T1 + 1
MSQS_T3	WAIT	15 TO 2400	T2 + 5	0, T2, T2 + 5
MSQS_T3	CALLQ	3 TO 2400	T2 + 1	0, T2, T2 + 1

MAXCQLMT specifies the size that MAXCQSIZE can be changed to via Load Management, Remote Load Management and table control (range: 0 to 511).

MAXVQLMT specifies the size that MAXVQSIZE can be changed to via Load Management, Remote Load Management and table control (range: 0 to 511).

CIFROUTE_INDEX specifies the location of the Route List in the Routing table. (range: 0 to 1023). If all the bits in this field are set to '1', it indicates that this option is not subscribed.

CIFROUTE_TABLE specifies the Routing table used for the Controlled Interflow Route of the ACD group (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

EH_OVFL_NUM_GROUPS specifies the number of ACD groups in the Enhanced Overflow route list for the specified ACD group. Up to four ACD groups can be specified as overflow groups for a given ACD group, all within the same Switch. If there are no ACD groups specified or ACD groups in the NACD configuration, then the value of this field is zero.

EH_OVFL_GROUP_ONE is the Primary ACD-DN of the first ACD group in the enhanced overflow route list.

EH_OVFL_GROUP_ONE_DN_COUNT specifies the number of digits in the Primary ACD-DN of the first ACD group. The ACD-DN can be up to ten digits.

EH_OVFL_GROUP_TWO is the Primary ACD-DN of the second ACD group in the enhanced overflow route list.

EH_OVFL_GROUP_TWO_DN_COUNT specifies the number of digits in the Primary ACD-DN of the second ACD group. The ACD-DN can be up to ten digits.

EH_OVFL_GROUP_THREE is the Primary ACD-DN of the third ACD group in the enhanced overflow route list.

EH_OVFL_GROUP_THREE_DN_COUNT specifies the number of digits in the Primary ACD-DN of the third ACD group. The ACD-DN can be up to ten digits.

EH_OVFL_GROUP_FOUR is the Primary ACD-DN of the fourth ACD group in the enhanced overflow route list.

EH_OVFL_GROUP_FOUR_DN_COUNT specifies the number of digits in the Primary ACD-DN of the fourth ACD group. The ACD-DN can be up to ten digits.

NS_AUDIO_GROUP specifies the audio group used to provide night service announcement to callers prior to rerouting the call to the night service route (range: 1 to 512). A value of zero indicates no night service audio group is used.

CTQSIZE contains information on the call transfer to agent option for this group. If bit 7 of this field is 1, the option is assigned, and bits 0-6 indicate the maximum number of calls that can be transferred directly to agents in this group (range: 0-42). If this field is zero, the call transfer option is not assigned to the group.

VFG_COUNT specifies the number of VFG entries in this message, (range: 0 to 3).

VFG_INDEX_ONE specifies an entry in the virtual facility group table which is used by this ACD group.

VFG_INDEX_TWO specifies an entry in the virtual facility group table which is used by this ACD group.

VFG_INDEX_THREE specifies an entry in the virtual facility group table which is used by this ACD group.

SRVRATE is the average service rate (call handling time) in seconds for calls to this group (range 0 to 600).

NUMIDLE is the value of the 'number of idle agents' weighting factor (range 0 to 255). A higher value indicates more idle agents.

TIMEIDLE is the value of the 'most idle agent' weighting factor (range 0 to 600). A higher value indicates longer idle duration.

DFT_LOB_CODE is the default LOB. The first 3 nibbles are the 3 digit LOB, and the 4th nibble is the length of the code. (length = 0 indicates no default LOB)

SRC_BEST_GRP indicates if the source group should be considered when determining the BEST target group for time overflow calls. (0 = source group is not considered, 1 = source group is considered.)

MSQS_TYPE indicates if the MSQS thresholds are based on CALL QUEUE size (value = 1) or CALL WAIT TIME (value = 0). If all the bits in this field are set to ‘1’, it indicates that this option is not subscribed.

DWRPTIME indicates the default WRAPTIME associated with this ACD group (range 1-900 seconds). This is the amount of time allowed from the time an ACD call is completed and a new ACD call is presented to an agent. A value of zero indicates no default wraptime is associated with this group. If all the bits in this field are set to '1', it indicates that this option is not subscribed.

TMDTHTIME indicates the amount of time a Time Delay Overflowed call will wait, after being overflowed, before it is removed from both the source and target groups and routed to the Time Threshold Route (range: 0 to 1800 seconds). A value of zero indicates the call will not be overflowed unless there is an agent available to answer the call at the remote group. If all the bits in this field are set to '1', it indicates that this option is not subscribed.

TMDTHRTE_INDEX specifies the index in the routing table specified (TMDTHRTE_TABLE) to be used for Time Delay Threshold routing (range 0-1023). If all the bits in this field are set to '1', it indicates that this option is not subscribed.

TMDTHRTE_TABLE specifies the routing table to be used for Time Delay Threshold routing (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

ORGANN indicates if Forced Incoming announcements and delay announcements for calls overflowing into this group are to be given from the original group (value = 1) or from this group (value = 0).

FIAUDIO_GROUP specifies the audio group to be used to provide Forced Incoming announcement for new incoming calls (range: 1-512). Zero indicates no announcement is to be given.

FOAUDIO_GROUP specifies the audio group to be used to provide Forced overflow announcement for deflected calls (range: 1-512). Zero indicates no announcement is to be given.

LOGINID_PARTITION identifies where the Login ID's should be accessed from. A value of zero will indicate that the login ID's for that ACD Group should be accessed from table ACDLOGIN, and values from 1 to 256 will indicate login ID's should be accessed from table ACDENLOG.

RENQTOUT_TIME indicates the maximum amount of time, in seconds, a Re-enqueued call will remain rerouted (range: 0 to 1800).

RENQRTE_INDEX specifies the index in the routing table defined in RENQRTE_TABLE, to be used for Re-enqueued Time-Out routing (range: 0 to 1023).

RENQRTE_TABLE specifies the routing table to be used for Re-enqueued Time-out routing.

3.3.2.2.1 switchSendAcdGroupdata X.409 notation

switchSendAcdGroupDataOPERATION
ARGUMENT
{ AcdGroupData }
::= 12

3.3.2.2.2 ACDGroupData

ACDGroupData ::= OCTET STRING

-- Bytes0-4	:	node_id
-- Byte 5	:	node_id_dn_count
-- Bytes6-10	:	acd_group_dn
-- Byte 11	:	acd_group_dn_count
-- Bytes12-27	:	group_clli
-- Byte 28	:	acd_config
-- Byte 29	:	trunk_priority
-- Bytes 30-31	:	maxwait
-- Bytes 32-33	:	wait_threshold
-- Bytes 34-35	:	tmdelovfl
-- Byte 36	:	priopro
-- Byte 37	:	ovfltype
-- Byte 38	:	start
-- Byte 39	:	service
-- Bytes 40-41	:	maxcqsize
-- Bytes 42-43	:	maxvqsize

```
-- Bytes 44-45      : queue_threshold
-- Bytes 46-47      : group_pwf
-- Bytes 48-49      : group_ri
-- Byte 50          : ranth
-- Byte 51          : line_priority
-- Bytes 52-53      : subpool_number
-- Bytes 54-55      : audio_group
-- Bytes 56-57      : throute_index
-- Byte 58          : throute_table
-- Byte 59          : nsroute_table
-- Bytes 60-61      : nsroute_index
-- Bytes  62-76     : acd_dn_name
-- Byte 77          : acd_dispdigs
-- Bytes 78-79      : msqs_t1
-- Bytes 80-81      : msqs_t2
-- Bytes 82-83      : msqs_t3
-- Bytes 84-85      : maxcqlmt
-- Bytes 86-87      : maxvqlmt
-- Bytes 88-89      : cifroute_index
-- Byte 90          : cifroute_table
-- Byte 91          : eh_ovfl_num_groups
-- Bytes 92-96      : eh_ovfl_group_one
-- Byte 97          : eh_ovfl_group_one_dn_count
-- Bytes 98-102     : eh_ovfl_group_two
-- Byte 103         : eh_ovfl_group_two_dn_count
-- Bytes 104-108    : eh_ovfl_group_three
-- Byte  109        : eh_ovfl_group_three_dn_count
-- Bytes 110-114    : eh_ovfl_group_four
-- Byte 115         : eh_ovfl_group_four_dn_count
-- Bytes 116-117    : ns_audio_group
-- Byte 118         : ctqsize
-- Byte 119         : vfg_count
-- Bytes 120-121    : vfg_index_one
-- Bytes 122-123    : vfg_index_two
-- Bytes 124-125    : vfg_index_three
-- Bytes 126-127    : srvrate
-- Bytes 128-129    : numidle
-- Bytes 130-131    : timeidle
-- Bytes 132-133    : dft_lob_code
-- Byte 134         : src_best_grp
-- Byte 135         : msqs_type
-- Bytes 136-137    : dwrptime
-- Bytes 138-139    : tmdthtime
-- Bytes 140-141    : tmdthrte_index
-- Byte  142        : tmdthrte_table
-- Byte  143        : organn
-- Bytes 144-145    : fiaudio_group
```

```
-- Bytes 146-147      : foaudio_group
-- Bytes 148-149      : loginid_partition
-- Bytes 150-151      : renqtout_time
-- Bytes 152-153      : renqrte_index
-- Bytes 154          : renqrte_table
-- Bytes 155-156      : renq_audio_group
```

3.3.2.3 ACDVFGData (Operation Value “1A” Hex)

The ACDVFGData message contains information on up to eight Virtual Facility Groups (VGFs) used by the ACD groups in this pool. A maximum of 32 ACD VFG Data messages will be sent if there are more than 248 VFGs used by the groups associated with this pool. A minimum of zero messages are sent if there are no associated VFGs. This message contains the following fields:

NODE_ID
NODE_ID_DN_COUNT
VFG_COUNT
VFG_INDEX_ONE
VFG_NAME_ONE
VFG_TYPE_ONE
VFG_DIRECTION_ONE
VFG_TYPE_INFO_ONE
VFG_INDEX_TWO
VFG_NAME_TWO
VFG_TYPE_TWO
VFG_DIRECTION_TWO
VFG_TYPE_INFO_TWO
VFG_INDEX_THREE
VFG_NAME_THREE
VFG_TYPE_THREE
VFG_DIRECTION_THREE
VFG_TYPE_INFO_THREE
VFG_INDEX_FOUR
VFG_NAME_FOUR
VFG_TYPE_FOUR
VFG_DIRECTION_FOUR
VFG_TYPE_INFO_FOUR
VFG_INDEX_FIVE
VFG_NAME_FIVE
VFG_TYPE_FIVE
VFG_DIRECTION_FIVE
VFG_TYPE_INFO_FIVE
VFG_INDEX_SIX
VFG_NAME_SIX
VFG_TYPE_SIX
VFG_DIRECTION_SIX
VFG_TYPE_INFO_SIX

VFG_INDEX_SEVEN
VFG_NAME_SEVEN
VFG_TYPE_SEVEN
VFG_DIRECTION_SEVEN
VFG_TYPE_INFO_SEVEN
VFG_INDEX_EIGHT
VFG_NAME_EIGHT
VFG_TYPE_EIGHT
VFG_DIRECTION_EIGHT
VFG_TYPE_INFO_EIGHT

where:

NODE_ID is the number which identifies the ACD Switch in the network.

NODE_ID_DN_COUNT specifies the number of digits in the NODE_ID. The NODE_ID can be up to ten digits.

VFG_COUNT specifies the number of VFG entries in this message, (range: 0 to 8).

VFG_INDEX_ONE specifies an entry in the virtual facility group table.

VFG_NAME_ONE specifies the name of the VFG entry associated with VFG_INDEX_ONE. The name consists of a maximum of six ASCII characters, with blanks padding any name less than 6 characters.

VFG_TYPE_ONE specifies whether the VFG is of the type SIZE (value = 0) or USES (value = 1).

VFG_DIRECTION_ONE is the direction associated with this VFG. Value of 0 indicates 2-way; value of 1 indicates incoming.

VFG_TYPE_INFO_ONE specifies the number of members in the VFG, if VFG_TYPE = SIZE, (range: 0-2047) or specifies the index of another VFG, if VFG_TYPE = USES.

VFG_INDEX_TWO specifies an entry in the virtual facility group table.

VFG_NAME_TWO specifies the name of the VFG entry associated with VFG_INDEX_TWO. The name consists of a maximum of six ASCII characters, with blanks padding any name less than 6 characters.

VFG_TYPE_TWO specifies whether the VFG is of the type SIZE (value = 0) or USES (value = 1).

VFG_DIRECTION_TWO is the direction associated with this VFG. Value of 0 indicates 2-way; value of 1 indicates incoming.

VFG_TYPE_INFO_TWO specifies the number of members in the VFG, if VFG_TYPE = SIZE, (range: 0-2047) or specifies the index of another VFG, if VFG_TYPE = USES.

VFG_INDEX_THREE specifies an entry in the virtual facility group table.

VFG_NAME_THREE specifies the name of the VFG entry associated with VFG_INDEX_THREE. The name consists of a maximum of six ASCII characters, with blanks padding any name less than 6 characters.

VFG_TYPE_THREE specifies whether the VFG is of the type SIZE (value = 0) or USES (value = 1).

VFG_DIRECTION_THREE is the direction associated with this VFG. Value of 0 indicates 2-way; value of 1 indicates incoming.

VFG_TYPE_INFO_THREE specifies the number of members in the VFG, if VFG_TYPE = SIZE, (range: 0-2047) or specifies the index of another VFG, if VFG_TYPE = USES.

VFG_INDEX_FOUR specifies an entry in the virtual facility group table.

VFG_NAME_FOUR specifies the name of the VFG entry associated with VFG_INDEX_FOUR. The name consists of a maximum of six ASCII characters, with blanks padding any name less than 6 characters.

VFG_TYPE_FOUR specifies whether the VFG is of the type SIZE (value = 0) or USES (value = 1).

VFG_DIRECTION_FOUR is the direction associated with this VFG. Value of 0 indicates 2-way; value of 1 indicates incoming.

VFG_TYPE_INFO_FOUR specifies the number of members in the VFG, if VFG_TYPE = SIZE, (range: 0-2047) or specifies the index of another VFG, if VFG_TYPE = USES.

VFG_INDEX_FIVE specifies an entry in the virtual facility group table.

VFG_NAME_FIVE specifies the name of the VFG entry associated with VFG_INDEX_FIVE. The name consists of a maximum of six ASCII characters, with blanks padding any name less than 6 characters.

VFG_TYPE_FIVE specifies whether the VFG is of the type SIZE (value = 0) or USES (value = 1).

VFG_DIRECTION_FIVE is the direction associated with this VFG. Value of 0 indicates 2-way; value of 1 indicates incoming.

VFG_TYPE_INFO_FIVE specifies the number of members in the VFG, if VFG_TYPE = SIZE, (range: 0-2047) or specifies the index of another VFG, if VFG_TYPE = USES.

VFG_INDEX_SIX specifies an entry in the virtual facility group table.

VFG_NAME_SIX specifies the name of the VFG entry associated with VFG_INDEX_SIX. The name consists of a maximum of six ASCII characters, with blanks padding any name less than 6 characters.

VFG_TYPE_SIX specifies whether the VFG is of the type SIZE (value = 0) or USES (value = 1).

VFG_DIRECTION_SIX is the direction associated with this VFG. Value of 0 indicates 2-way; value of 1 indicates incoming.

VFG_TYPE_INFO_SIX specifies the number of members in the VFG, if VFG_TYPE = SIZE, (range: 0-2047) or specifies the index of another VFG, if VFG_TYPE = USES.

VFG_INDEX_SEVEN specifies an entry in the virtual facility group table.

VFG_NAME_SEVEN specifies the name of the VFG entry associated with VFG_INDEX_SEVEN. The name consists of a maximum of six ASCII characters, with blanks padding any name less than 6 characters.

VFG_TYPE_SEVEN specifies whether the VFG is of the type SIZE (value = 0) or USES (value = 1).

VFG_DIRECTION_SEVEN is the direction associated with this VFG. Value of 0 indicates 2-way; value of 1 indicates incoming.

VFG_TYPE_INFO_SEVEN specifies the number of members in the VFG, if VFG_TYPE = SIZE, (range: 0-2047) or specifies the index of another VFG, if VFG_TYPE = USES.

VFG_INDEX_EIGHT specifies an entry in the virtual facility group table.

VFG_NAME_EIGHT specifies the name of the VFG entry associated with VFG_INDEX_EIGHT. The name consists of a maximum of six ASCII characters, with blanks padding any name less than 6 characters.

VFG_TYPE_EIGHT specifies whether the VFG is of the type SIZE (value = 0) or USES (value = 1).

VFG_DIRECTION_EIGHT is the direction associated with this VFG. Value of 0 indicates 2-way; value of 1 indicates incoming.

VFG_TYPE_INFO_EIGHT specifies the number of members in the VFG, if VFG_TYPE = SIZE, (range: 0-2047) or specifies the index of another VFG, if VFG_TYPE = USES.

3.3.2.3.1 switchSendVFGData X.409 notation

switchSendVFGDataOPERATION
ARGUMENT
{AcdVFGData}
::= 26

3.3.2.3.2 ACDVFGData

ACDVFGData ::= OCTET STRING

--Bytes0-4	:	node_id
--Byte5	:	node_id_dn_count
--Byte6	:	vfg_count
--Byte7	:	reserved
--Bytes8-9	:	vfg_index_one
--Bytes10-15	:	vfg_name_one
--Byte16	:	vfg_type_one
--Byte17	:	vfg_direction_one
--Bytes18-19	:	vfg_type_info_one
--Byte20-21	:	vfg_index_two
--Bytes22-27	:	vfg_name_two
--Byte28	:	vfg_type_two
--Byte29	:	vfg_direction_two
--Bytes30-31	:	vfg_type_info_two
--Bytes32-33	:	vfg_index_three
--Bytes34-39	:	vfg_name_three
--Byte40	:	vfg_type_three
--Byte41	:	vfg_direction_three
--Bytes42-43	:	vfg_type_info_three
--Bytes44-45	:	vfg_index_four
--Bytes46-51	:	vfg_name_four
--Byte52	:	vfg_type_four
--Byte53	:	vfg_direction_four
--Bytes54-55	:	vfg_type_info_four
--Bytes56-57	:	vfg_index_five
--Bytes58-63	:	vfg_name_five
--Byte64	:	vfg_type_five
--Byte65	:	vfg_direction_five
--Bytes66-67	:	vfg_type_info_five
--Bytes68-69	:	vfg_index_six
--Bytes70-75	:	vfg_name_six
--Byte76	:	vfg_type_six
--Byte77	:	vfg_direction_six
--Bytes78-79	:	vfg_type_info_six
--Bytes80-81	:	vfg_index_seven

--Bytes82-87 : vfg_name_seven
--Byte88 : vfg_type_seven
--Byte89 : vfg_direction_seven
--Bytes90-91 : vfg_type_info_seven
--Bytes92-93 : vfg_index_eight
--Bytes94-99 : vfg_name_eight
--Byte100 : vfg_type_eight
--Byte101 : vfg_direction_eight
--Bytes102-103: vfg_type_info_eight

3.3.2.4 AudioList (Operation Value “16” Hex)

The audio groups associated with an ACD group give the callers an announcement while they are queued. This message informs the DSP of the audio groups that an ACD group can access. The messages contain the following fields:

NODE_ID
NODE_ID_DN_COUNT
ACD_GROUP_DN
ACD_GROUP_DN_COUNT
AUDIO_LIST_NUMBER
AUDIO_LIST_ONE
AUDIO_LIST_TWO
AUDIO_LIST_THREE
AUDIO_LIST_FOUR
AUDIO_LIST_FIVE
AUDIO_LIST_SIX
AUDIO_LIST_SEVEN
AUDIO_LIST_EIGHT

Where:

NODE_ID is the number which identifies the ACD Switch in the network.

NODE_ID_DN_COUNT specifies the number of digits in the NODE_ID. The NODE_ID can be up to ten digits.

ACD_GROUP_DN is the Primary ACD-DN of the group to which these audio lists applies.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

AUDIO_LIST_NUMBER is the number of audio groups this ACD group can access (range: 0 to 8). Zero indicates a null audio list.

AUDIO_LIST_ONE indicates the first audio group table number (range: 1 to 512). Zero indicates null audio group.

AUDIO_LIST_TWO indicates the second audio group table number (range: 1 to 512). Zero indicates null audio group.

AUDIO_LIST_THREE indicates the third audio group table number (range: 1 to 512). Zero indicates null audio group.

AUDIO_LIST_FOUR indicates the fourth audio group table number (range: 1 to 512). Zero indicates null audio group.

AUDIO_LIST_FIVE indicates the fifth audio group table number (range: 1 to 512). Zero indicates null audio group.

AUDIO_LIST_SIX indicates the sixth audio group table number (range: 1 to 512). Zero indicates null audio group.

AUDIO_LIST_SEVEN indicates the seventh audio group table number (range: 1 to 512). Zero indicates null audio group.

AUDIO_LIST_EIGHT indicates the eighth audio group table number (range: 1 to 512). Zero indicates null audio group.

3.3.2.4.1 switchSendAudioList

```
switchSendAudioListOPERATION
    ARGUMENT
        { AudioList }
    := 22
```

3.3.2.4.2 AudioList

```
AudioList  ::= OCTET STRING
        -- Bytes0-4:  node_id
        -- Byte5:  node_id_dn_count
        -- Bytes6-10:  acd_group_dn
        -- Byte11:  acd_group_dn_count
        -- Byte12:  audio_list_number
                --Contains the number of audio groups
                --in the list.
                --Value must be in the range of 0 to 8.
                --Zero indicates null audio list.
        -- Byte13:  reserved
        -- Bytes14-15:  audio_list_one
        -- Bytes16-17:  audio_list_two
        -- Bytes18-19:  audio_list_three
        -- Bytes20-21:  audio_list_four
        -- Bytes22-23:  audio_list_five
```

-- Bytes24-25: audio_list_six
-- Bytes26-27: audio_list_seven
-- Bytes28-29: audio_list_eight
--Audio_list_one thru audio_list_eight
--contains the audio group number.
--Value must be in the range of one to 512.
--Zero indicates null audio group.

3.3.2.5 RouteList (Operation Value “17” Hex)

The RouteList message provides a list of the OFRT / IBNRTE trunk routes an ACD group can access. This is used to restrict which routing table entries can be used for ACD threshold and night service routes by the group. If the Route List is null, the DSP is allowed to use any valid entry on the switch. The data message contains the following fields:

NODE_ID
NODE_ID_DN_COUNT
ACD_GROUP_DN
ACD_GROUP_DN_COUNT
ROUTE_LIST_NUMBER

ROUTING_TABLE_INDEX_ONE
ROUTING_TABLE_ID_ONE

ROUTING_TABLE_INDEX_TWO
ROUTING_TABLE_ID_TWO

ROUTING_TABLE_INDEX_THREE
ROUTING_TABLE_ID_THREE

ROUTING_TABLE_INDEX_FOUR
ROUTING_TABLE_ID_FOUR

ROUTING_TABLE_INDEX_FIVE
ROUTING_TABLE_ID_FIVE

ROUTING_TABLE_INDEX_SIX
ROUTING_TABLE_ID_SIX

ROUTING_TABLE_INDEX_SEVEN
ROUTING_TABLE_ID_SEVEN

ROUTING_TABLE_INDEX_EIGHT
ROUTING_TABLE_ID_EIGHT

ROUTING_TABLE_INDEX_NINE
ROUTING_TABLE_ID_NINE

ROUTING_TABLE_INDEX_TEN
ROUTING_TABLE_ID_TEN

where:

NODE_ID is the number which identifies the ACD Switch in the network.

NODE_ID_DN_COUNT specifies the number of digits in the NODE_ID. The NODE_ID can be up to ten digits.

ACD_GROUP_DN is the Primary ACD-DN of the group to which the allowed routes list applies.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

ROUTE_LIST_NUMBER is the number of routes in the list (range: 0 to 10). A zero indicates null list.

ROUTING_TABLE_INDEX_ONE Specifies the routing table entry one.

ROUTING_TABLE_ID_ONE Identifies the route (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

ROUTING_TABLE_INDEX_TWO Specifies the routing table entry two.

ROUTING_TABLE_ID_TWO Identifies the route (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

ROUTING_TABLE_INDEX_THREE Specifies the routing table entry three.

ROUTING_TABLE_ID_THREE Identifies the route (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

ROUTING_TABLE_INDEX_FOUR Specifies the routing table entry four.

ROUTING_TABLE_ID_FOUR Identifies the route (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

ROUTING_TABLE_INDEX_FIVE Specifies the routing table entry five.

ROUTING_TABLE_ID_FIVE Identifies the route (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

ROUTING_TABLE_INDEX_SIX Specifies the routing table entry six.

ROUTING_TABLE_ID_SIX Identifies the route (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

ROUTING_TABLE_INDEX_SEVEN Specifies the routing table entry seven.

ROUTING_TABLE_ID_SEVEN Identifies the route (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

ROUTING_TABLE_INDEX_EIGHT Specifies the routing table entry eight.

ROUTING_TABLE_ID_EIGHT Identifies the route (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

ROUTING_TABLE_INDEX_NINE Specifies the routing table entry nine.

ROUTING_TABLE_ID_NINE Identifies the route (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

ROUTING_TABLE_INDEX_TEN Specifies the routing table entry ten.

ROUTING_TABLE_ID_TEN Identifies the route (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

3.3.2.5.1 switchSendRouteList

```
switchSendRouteListOPERATION
    ARGUMENT
        { RouteList }
    ::= 23
```

3.3.2.5.2 RouteList

```
RouteList ::= OCTET STRING
        -- Bytes0-4:  node_id
        -- Byte5:  node_id_dn_count
        -- Bytes6-10:  acd_group_dn
        -- Byte 11:  acd_group_dn_count
                --Contains the number of routes
                --in the list. Must be in the range of 0 to 10.
                --Zero indicates null route list.
        -- Byte12:  route_list_number
        -- Bytes13:  reserved
        -- Byte14:  routing_table_identifier_one
        -- Byte15:  routing_table_identifier_two
        -- Bytes16-17:  routing_table_index_one
        -- Bytes18-19:  routing_table_index_two
        -- Byte20:  routing_table_identifier_three
```

-- Byte21: routing_table_identifier_four
-- Bytes 22-23: routing_table_index_three
-- Bytes24-25: routing_table_index_four
-- Byte26: routing_table_identifier_five
-- Byte27: routing_table_identifier_six
-- Bytes28-29: routing_table_index_five
-- Bytes30-31: routing_table_index_six
-- Byte32: routing_table_identifier_seven
-- Byte33: routing_table_identifier_eight
-- Bytes34-35: routing_table_index_seven
-- Bytes36-37: routing_table_index_eight
-- Byte38: routing_table_identifier_nine
-- Bytes39: routing_table_identifier_ten
-- Bytes 40-41: routing_table_index_nine
-- Bytes42-43: routing_table_index_ten

3.3.2.6 ACDSupplDNData (Operation Value "D" Hex)

The ACDSupplDnData message provides information about a Supplementary DN that is associated with this ACD group. A message is sent for each Supplementary ACD-DN which is associated with an ACD group. The message contains the following fields:

NODE_ID
NODE_ID_DN_COUNT
ACD_GROUP_DN
ACD_GROUP_DN_COUNT
SUPPL_ACD_GROUP_DN
SUPPL_ACD_GROUP_DN_COUNT
SUPPL_ACD_DN_PRIORITY
SUPPL_ACD_DN_NAME

where:

NODE_ID is the number which identifies the ACD Switch in the network.

NODE_ID_DN_COUNT specifies the number of digits in the NODE_ID. The NODE_ID can be up to ten digits.

ACD_GROUP_DN is the Primary ACD-DN of the group to which the Supplementary ACD-DN is associated.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

SUPPL_ACD_GROUP_DN is the Supplementary ACD-DN of the ACD group.

SUPPL_ACD_GROUP_DN_COUNT specifies the number of digits in the Supplementary ACD-DN. The SupplementaryACD-DN can be up to ten digits.

SUPPL_ ACD_DN_PRIORITY is the priority assigned to Supplementary ACD-DN calls when they are queued in the Incoming Call Queue (range: 0 for highest priority to 3 for lowest priority).

SUPPL_ACD_DN_NAME is the name datafilled in the Switch for the Supplementary ACD-DN for the ACD group. (15 ASCII characters). If the name is not datafilled, then this field is filled with blanks.

3.3.2.6.1 switchSendSupplAcdDn X.409 notation

```
switchSendSupplAcdDn OPERATION
    ARGUMENT
        { AcdSupplDNData }
    ::= 13
```

3.3.2.6.2 ACDSupplDNData

```
ACDSupplDNData ::= OCTET STRING
                    -- Bytes0-4    :  node_id
                    -- Byte 5       :  node_id_dn_count
                    - Bytes 6-10    :  acd_group_dn
                    -- Byte 11      :  acd_group_dn_count
                    -- Bytes12-16   :  suppl_acd_group_dn
                    -- Byte 17      :  suppl_acd_group_dn_count
                    -- Bytes18-32   :  suppl_acd_dn_name
                    -- Byte 33      :  suppl_acd_dn_priority
```

3.3.2.7 ACDSubGroupData (Operation Value “19” Hex)

This message contains information relating to the ACD group - subgroup configuration. The following fields are included:

NODE_ID
NODE_ID_DN_COUNT
ACD_GROUP_DN
ACD_GROUP_DN_COUNT
ACD_SUBGROUP_NO
SUPERVISOR_ID

where:

NODE_ID is the number which identifies the ACD Switch in the network.

NODE_ID_DN_COUNT specifies the number of digits in the NODE_ID. The NODE_ID can be up to ten digits.

ACD_GROUP_DN is the Primary ACD-DN of the group to which the subgroup number is associated.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

ACD_SUBGROUP_NO is the number which identifies the subgroup (range: 0 to 255).

SUPERVISOR_ID is the position ID of the Supervisor which correspond to the subgroup number (range: 1 to 9999). When this field is zero, the subgroup does not have an assigned supervisor.

3.3.2.7.1 switchSendSubgroupData X.409 notation

```
switchSendSubGroupDataOPERATION
    ARGUMENT
        {SubgroupData }
    ::= 25
```

3.3.2.7.2 ACDSubGroupData

```
ACDSubGroupData  ::= OCTET STRING
                        -- Bytes0-4     :  node_id
                        -- Byte 5        :  node_id_dn_count
                        -- Bytes6-10    :  acd_group_dn
                        -- Byte 11       :  acd_group_dn_count
                        -- Bytes12-13  :  acd_subgroup_no
                        -- Bytes14-15  :  supervisor_id
```

3.3.2.8 AgentPositionData (Operation Value “E” Hex)

This message contains information relating to the current ACD configuration. This information is used to link the agent position to the assigned supervisor. The following fields are included:

NODE_ID
NODE_ID_DN_COUNT
ACD_GROUP_DN
ACD_GROUP_DN_COUNT
POSITION_SUPV_ID
POSITION_AGPOSNID
POSITION_LOGINID
POSITION_WRPTIME

where:

NODE_ID is the number which identifies the ACD Switch in the network.

NODE_ID_DN_COUNT specifies the number of digits in the NODE_ID. The NODE_ID can be up to ten digits.

ACD_GROUP_DN is the Primary ACD-DN of the group with which the agent position is associated.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

POSITION_SUPV_ID is the position ID of the Supervisor with which the Agent Position is associated (range: 1 to 9999). The field will have a value of zero when the agent position has not been associated with a supervisor position.

POSITION_AGPOSNID is the agent position ID that is assigned when the ACD set is datafilled in the Switch (range: 1 to 9999). The ID number is zero if the agent position is not assigned a position ID.

POSITION_LOGINID is the agent login ID which is used by the agent to log into the agent position. This field has a value of zero when the agent is not logged in to the agent position (range: 1 to 9999).

is the value of the variable wrap-up time (WRPTIME) associated with the agent login id. If the agent is not logged in (POSITION_LOGINID = 0), this value is not used (range 1 to 900 seconds). A value of zero indicates no WRPTIME is associated with this login id.

Note: The ACDNR feature can be assigned to an agent position on an optional basis since it is not required in high volume applications characterized by short transaction times. For agents in this situation it can be necessary to assign the Variable Wrap-up Time feature to provide some follow-up time after each call.

3.3.2.8.1 switchSendAgentPosData X.409 notation

```
switchSendAgentPosDataOPERATION
    ARGUMENT
        { AgentPositionData }
    ::= 14
```

3.3.2.8.2 AgentPositionData

```
AgentPositionData ::= OCTET STRING
                        -- Bytes 0-4    :  node_id
                        -- Byte 5        :  node_id_dn_count
                        -- Bytes 6-10    :  acd_group_dn
                        -- Byte 11       :  acd_group_dn_count
                        -- Bytes 12-13 :  position_supv_id
                        -- Bytes 14-15 :  position_agposnid
                        -- Bytes 16-17 :  position_loginid
```

-- Bytes 18-19 : position_wrptime

3.3.2.9 ACDNetworkGroupRoutingData (Operation Value “18” Hex)

This message provides information about the NACD groups (up to 12) with which this group can network. These groups can be located on other Switches in the network or the same Switch. The Preference Weighting Factor (PWF) and Resource Index (RI) information controls the distribution of calls from the source group to the other groups. Each message can contain information for up to 12 destination ACD groups, including their RI, PWF, and routing information, when the group is remotely located on another Switch. If a source group provides networking with the maximum number groups (48), four of these messages are required to be sent to the DSP.

The following fields are included:

NODE_ID
NODE_ID_DN_COUNT
SRC_ACD_GROUP_DN
SRC_ACD_GROUP_DN_COUNT
NO_OF_GROUPS_ONE
CALCULATED_RI_VECTOR
REMOTE_GROUP_VECTOR
DEST_ACD_GROUP_ONE_DN
DEST_ACD_GROUP_ONE_DN_COUNT
DEST_ACD_PWF_ONE
DEST_ACD_RI_ONE
IBNRTE_ONE
DEST_ACD_GROUP_TWO_DN
DEST_ACD_GROUP_TWO_DN_COUNT
DEST_ACD_PWF_TWO
DEST_ACD_RI_TWO
IBNRTE_TWO
DEST_ACD_GROUP_THREE_DN
DEST_ACD_GROUP_THREE_DN_COUNT
DEST_ACD_PWF_THREE
DEST_ACD_RI_THREE
IBNRTE_THREE
DEST_ACD_GROUP_FOUR_DN
DEST_ACD_GROUP_FOUR_DN_COUNT
DEST_ACD_PWF_FOUR
DEST_ACD_RI_FOUR
IBNRTE_FOUR
DEST_ACD_GROUP_FIVE_DN
DEST_ACD_GROUP_FIVE_DN_COUNT
DEST_ACD_PWF_FIVE
DEST_ACD_RI_FIVE

IBNRTE_FIVE
DEST_ACD_GROUP_SIX_DN
DEST_ACD_GROUP_SIX_DN_COUNT
DEST_ACD_PWF_SIX
DEST_ACD_RI_SIX
IBNRTE_SIX
DEST_ACD_GROUP_SEVEN_DN
DEST_ACD_GROUP_SEVEN_DN_COUNT
DEST_ACD_PWF_SEVEN
DEST_ACD_RI_SEVEN
IBNRTE_SEVEN
DEST_ACD_GROUP_EIGHT_DN
DEST_ACD_GROUP_EIGHT_DN_COUNT
DEST_ACD_PWF_ONE
DEST_ACD_RI_EIGHT
IBNRTE_EIGHT
DEST_ACD_GROUP_NINE_DN
DEST_ACD_GROUP_NINE_DN_COUNT
DEST_ACD_PWF_NINE
DEST_ACD_RI_NINE
IBNRTE_NINE
DEST_ACD_GROUP_TEN_DN
DEST_ACD_GROUP_TEN_DN_COUNT
DEST_ACD_PWF_TEN
DEST_ACD_RI_TEN
IBNRTE_TEN
DEST_ACD_GROUP_ELEVEN_DN
DEST_ACD_GROUP_ELEVEN_DN_COUNT
DEST_ACD_PWF_ELEVEN
DEST_ACD_RI_ELEVEN
IBNRTE_ELEVEN
DEST_ACD_GROUP_TWELVE_DN
DEST_ACD_GROUP_TWELVE_DN_COUNT
DEST_ACD_PWF_TWELVE
DEST_ACD_RI_TWELVE
IBNRTE_TWELVE

Where:

NODE_ID is the number which identifies the ACD Switch in the network.

NODE_ID_DN_COUNT specifies the number of digits in the NODE_ID. The NODE_ID can be up to ten digits.

SRC_ACD_GROUP_DN is the Primary ACD-DN of the source group with which the network information is associated.

SRC_ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the source ACD group. The ACD-DN can be up to ten digits.

NO_OF_GROUPS_ONE is the number of destination groups in this message (range: 0 to 11).

CALCULATED_RI_VECTOR is a list of 12 flags, associated with the 12 destination groups indicating if the RI can be manually changed or not. A value zero allows changing the RI, while a one indicates that the value is calculated by the Switch and cannot be changed. The RIs are provided for information during the initialization in case the remote switches do not support the same algorithm.

REMOTE_GROUP_VECTOR is a bit array (12 bits) associated with the 12 destination groups indicating if the group is remote (value=1) or local(value=0).

DEST_ACD_GROUP_ONE_DN is the Primary ACD-DN of the first destination group with which the source can network.

DEST_ACD_GROUP_ONE_DN_COUNT specifies the number of digits in the first destination group's ACD-DN which can be up to 10.

DEST_ACD_PWF_ONE is the Preference Weighting Factor (range: 0 to 32767) associated with the first destination group. It indicates the source's preference for routing calls to this destination group.

DEST_ACD_RI_ONE is the Resource Index (range: 0 to 65535) associated with the first destination group. This RI value is either calculated for switches which support RIs or datafilled for switches which do not support RIs.

IBNRTE_ONE is the entry in table IBNRTE (range: 0 to 1023) to be used for routing calls to the destination group.

DEST_ACD_GROUP_TWO_DN is the Primary ACD-DN of the second destination group with which the source can network.

DEST_ACD_GROUP_TWO_DN_COUNT specifies the number of digits in the second destination group's ACD-DN, which can be up to 10.

DEST_ACD_PWF_TWO is the Preference Weighting Factor (range: 0 to 32767) associated with the second destination group. It indicates the source's preference for routing calls to this destination group.

DEST_ACD_RI_TWO is the Resource Index (range: 0 to 65535) associated with the second destination group.This RI value is either

calculated for switches which support RIs or datafilled for switches which do not support RIs.

IBNRTE_TWO is the entry in table IBNRTE (range: 0 to 1023) to be used for routing calls to the destination group.

DEST_ACD_GROUP_THREE_DN is the Primary ACD-DN of the third destination group with which the source can network.

DEST_ACD_GROUP_THREE_DN_COUNT specifies the number of digits in the third destination group's ACD-DN, which can be up to 10.

DEST_ACD_PWF_THREE is the Preference Weighting Factor (range: 0 to 32767) associated with the third destination group. It indicates the source's preference for routing calls to this destination group.

DEST_ACD_RI_THREE is the Resource Index (range: 0 to 65535) associated with the third destination group.This RI value is either calculated for switches which support RIs or datafilled for switches which do not support RIs.

IBNRTE_THREE is the entry in table IBNRTE (range: 0 to 1023) to be used for routing calls to the destination group.

DEST_ACD_GROUP_FOUR_DN is the Primary ACD-DN of the fourth destination group with which the source can network.

DEST_ACD_GROUP_FOUR_DN_COUNT specifies the number of digits in the fourth destination group's ACD-DN, which can be up to 10.

DEST_ACD_PWF_FOUR is the Preference Weighting Factor (range: 0 to 32767) associated with the fourth destination group. It indicates the source's preference for routing calls to this destination group.

DEST_ACD_RI_FOUR is the Resource Index (range: 0 to 65535) associated with the fourth destination group.This RI value is either calculated for switches which support RIs or datafilled for switches which do not support RIs.

IBNRTE_FOUR is the entry in table IBNRTE (range: 0 to 1023) to be used for routing calls to the destination group.

DEST_ACD_GROUP_FIVE_DN is the Primary ACD-DN of the fifth destination group with which the source can network.

DEST_ACD_GROUP_FIVE_DN_COUNT specifies the number of digits in the fifth destination group's ACD-DN, which can be up to 10.

DEST_ACD_PWF_FIVE is the Preference Weighting Factor (range: 0 to 32767) associated with the fifth destination group. It indicates the source's preference for routing calls to this destination group.

DEST_ACD_RI_FIVE is the Resource Index (range: 0 to 65535) associated with the fifth destination group.This RI value is either calculated for switches which support RIs or datafilled for switches which do not support RIs.

IBNRTE_FIVE is the entry in table IBNRTE (range: 0 to 1023) to be used for routing calls to the destination group.

DEST_ACD_GROUP_SIX_DN is the Primary ACD-DN of the sixth destination group with which the source can network.

DEST_ACD_GROUP_SIX_DN_COUNT specifies the number of digits in the sixth destination group's ACD-DN, which can be up to 10.

DEST_ACD_PWF_SIX is the Preference Weighting Factor (range: 0 to 32767) associated with the sixth destination group. It indicates the source's preference for routing calls to this destination group.

DEST_ACD_RI_SIX is the Resource Index (range: 0 to 65535) associated with the sixth destination group.This RI value is either calculated for switches which support RIs or datafilled for switches which do not support RIs.

IBNRTE_SIX is the entry in table IBNRTE (range: 0 to 1023) to be used for routing calls to the destination group.

DEST_ACD_GROUP_SEVEN_DN is the Primary ACD-DN of the seventh destination group with which the source can network.

DEST_ACD_GROUP_SEVEN_DN_COUNT specifies the number of digits in the seventh destination group's ACD-DN, which can be up to 10.

DEST_ACD_PWF_SEVEN is the Preference Weighting Factor (range: 0 to 32767) associated with the seventh destination group. It indicates the source's preference for routing calls to this destination group.

DEST_ACD_RI_SEVEN is the Resource Index (range: 0 to 65535) associated with the seventh destination group.This RI value is either calculated for switches which support RIs or datafilled for switches which do not support RIs.

IBNRTE_SEVEN is the entry in table IBNRTE (range: 0 to 1023) to be used for routing calls to the destination group.

DEST_ACD_GROUP_EIGHT_DN is the Primary ACD-DN of the eighth destination group with which the source can network.

DEST_ACD_GROUP_EIGHT_DN_COUNT specifies the number of digits in the eighth destination group's ACD-DN, which can be up to 10.

DEST_ACD_PWF_EIGHT is the Preference Weighting Factor (range: 0 to 32767) associated with the eighth destination group. It indicates the source's preference for routing calls to this destination group.

DEST_ACD_RI_EIGHT is the Resource Index (range: 0 to 65535) associated with the eighth destination group. This RI value is either calculated for switches which support RIs or datafilled for switches which do not support RIs.

IBNRTE_EIGHT is the entry in table IBNRTE (range: 0 to 1023) to be used for routing calls to the destination group.

DEST_ACD_GROUP_NINE_DN is the Primary ACD-DN of the ninth destination group with which the source can network.

DEST_ACD_GROUP_NINE_DN_COUNT specifies the number of digits in the ninth destination group's ACD-DN, which can be up to 10.

DEST_ACD_PWF_NINE is the Preference Weighting Factor (range: 0 to 32767) associated with the ninth destination group. It indicates the source's preference for routing calls to this destination group.

DEST_ACD_RI_NINE is the Resource Index (range: 0 to 65535) associated with the ninth destination group.This RI value is either calculated for switches which support RIs or datafilled for switches which do not support RIs.

IBNRTE_NINE is the entry in table IBNRTE (range: 0 to 1023) to be used for routing calls to the destination group.

DEST_ACD_GROUP_TEN_DN is the Primary ACD-DN of the tenth destination group with which the source can network.

DEST_ACD_GROUP_TEN_DN_COUNT specifies the number of digits in the tenth destination group's ACD-DN, which can be up to 10.

DEST_ACD_PWF_TEN is the Preference Weighting Factor (range: 0 to 32767) associated with the tenth destination group. It indicates the source's preference for routing calls to this destination group.

DEST_ACD_RI_TEN is the Resource Index (range: 0 to 65535) associated with the tenth destination group.This RI value is either calculated for

switches which support RIs or datafilled for switches which do not support RIs.

IBNRTE_TEN is the entry in table IBNRTE (range: 0 to 1023) to be used for routing calls to the destination group.

DEST_ACD_GROUP_ELEVEN_DN is the Primary ACD-DN of the eleventh destination group with which the source can network.

DEST_ACD_GROUP_ELEVEN_DN_COUNT specifies the number of digits in the eleventh destination group's ACD-DN, which can be up to 10.

DEST_ACD_PWF_ELEVEN is the Preference Weighting Factor (range: 0 to 32767) associated with the eleventh destination group. It indicates the source's preference for routing calls to this destination group.

DEST_ACD_RI_ELEVEN is the Resource Index (range: 0 to 65535) associated with the eleventh destination group.This RI value is either calculated for switches which support RIs or datafilled for switches which do not support RIs.

IBNRTE_ELEVEN is the entry in table IBNRTE (range: 0 to 1023) to be used for routing calls to the destination group.

DEST_ACD_GROUP_TWELVE_DN is the Primary ACD-DN of the twelfth destination group with which the source can network.

DEST_ACD_GROUP_TWELVE_DN_COUNT specifies the number of digits in the twelfth destination group's ACD-DN, which can be up to 10.

DEST_ACD_PWF_TWELVE is the Preference Weighting Factor (range: 0 to 32767) associated with the twelfth destination group. It indicates the source's preference for routing calls to this destination group.

DEST_ACD_RI_TWELVE is the Resource Index (range: 0 to 65535) associated with the twelfth destination group.This RI value is either calculated for switches which support RIs or datafilled for switches which do not support RIs.

IBNRTE_TWELVE is the entry in table IBNRTE (range: 0 to 1023) to be used for routing calls to the destination group.

3.3.2.9.1 switchSendNACDGroupRoutingD X.409 notation

```
switchSendNACDGroupRoutingDataOPERATION
    ARGUMENT
        { NACDGroupRoutingData }
    ::= 24
```

3.3.2.9.2 ACDNetworkGroupRoutingData

```
ACDNetworkGroupRoutingData::= CHOICE
{  ACDNetworkGroupRoutingDataOne     [0]  IMPLICIT OCTET STRING,
        -- Bytes0-4     :  node_id
        -- Bytes5       :  node_id_dn_count
        -- Bytes6-10    :  src_acd_group_dn
        -- Byte11       :  src_acd_group_dn_count
        -- Bytes12-13   :  no_of_groups_one
        -- Bytes14-15   :  calculated_ri_vector
        -- Bytes16-17   :  remote_group_vector
        -- Bytes18-22   :  dest_acd_group_one_dn
        -- Byte23       :  dest_acd_group_one_dn_count
        -- Bytes24-25   :  dest_acd_pwf_one
        -- Bytes26-27   :  dest_acd_ri_one
        -- Bytes28-29   :  ibnrte_one
        -- Bytes30-34   :  dest_acd_group_two_dn
        -- Byte35       :  dest_acd_group_two_dn_count
        -- Bytes36-37   :  dest_acd_pwf_two
        -- Bytes38-39   :  dest_acd_ri_two
        -- Bytes40-41   :  ibnrte_two
        -- Bytes42-46   :  dest_acd_group_three_dn
        -- Byte47       :  dest_acd_group_three_dn_count
        -- Bytes48-49   :  dest_acd_pwf_three
        -- Bytes50-51   :  dest_acd_ri_three
        -- Bytes52-53   :  ibnrte_three
        -- Bytes54-58   :  dest_acd_group_four_dn
        -- Byte59       :  dest_acd_group_four_dn_count
        -- Bytes60-61   :  dest_acd_pwf_four
        -- Bytes62-63   :  dest_acd_ri_four
        -- Bytes64-65   :  ibnrte_four
        -- Bytes66-70   :  dest_acd_group_five_dn
        -- Byte71       :  dest_acd_group_five_dn_count
        -- Bytes72-73   :  dest_acd_pwf_five
        -- Bytes74-75   :  dest_acd_ri_five
        -- Bytes76-77   :  ibnrte_five
        -- Bytes78-82   :  dest_acd_group_six_dn
        -- Byte83       :  dest_acd_group_six_dn_count
        -- Bytes84-85   :  dest_acd_pwf_six
        -- Bytes86-87   :  dest_acd_ri_six
        -- Bytes88-89   :  ibnrte_six
        -- Bytes90-94   :  dest_acd_group_seven_dn
        -- Byte95       :  dest_acd_group_seven_dn_count
        -- Bytes96-97   :  dest_acd_pwf_seven
        -- Bytes98-99   :  dest_acd_ri_seven
        -- Bytes100-101:  ibnrte_seven
        -- Bytes102-106:  dest_acd_group_eight_dn
        -- Byte107      :  dest_acd_group_eight_dn_count
```

-- Bytes108-109: dest_acd_pwf_eight
-- Bytes110-111: dest_acd_ri_eight
-- Bytes112-113: ibnrte_eight
-- Bytes114-118: dest_acd_group_nine_dn
-- Byte119 : dest_acd_group_nine_dn_count
-- Bytes120-121: dest_acd_pwf_nine
-- Bytes122-123: dest_acd_ri_nine
-- Bytes124-125: ibnrte_nine
-- Bytes126-130: dest_acd_group_ten_dn
-- Byte131 : dest_acd_group_ten_dn_count
-- Bytes132-133: dest_acd_pwf_ten
-- Bytes134-135: dest_acd_ri_ten
-- Bytes136-137: ibnrte_ten
-- Bytes138-142: dest_acd_group_eleven_dn
-- Byte143 : dest_acd_group_eleven_dn_count
-- Bytes144-145: dest_acd_pwf_eleven
-- Bytes146-147: dest_acd_ri_eleven
-- Bytes148-149: ibnrte_eleven
-- Bytes150-154: dest_acd_group_twelve_dn
-- Byte155 : dest_acd_group_twelve_dn_co
-- Bytes156-157: dest_acd_pwf_twelve
-- Bytes158-159: dest_acd_ri_twelve
-- Bytes160-161: ibnrte_twelve

ACDNetworkGroupRoutingDataTwo [1] IMPLICIT OCTET STRING,

-- Bytes0-4 : node_id
-- Byte5 : node_id_dn_count
-- Bytes6-10 : src_acd_group_dn
-- Byte11 : src_acd_group_dn_count
-- Bytes12-13 : no_of_groups_two
-- Bytes14-15 : calculated_ri_vector
-- Bytes16-17 : remote_group_vector
-- Bytes18-22 : dest_acd_group_thirteen_dn
-- Byte23 : dest_acd_group_thirteen_dn_count
-- Bytes24-25 : dest_acd_pwf_thirteen
-- Bytes26-27 : dest_acd_ri_thirteen
-- Bytes28-29 : ibnrte_thirteen
-- Bytes30-34 : dest_acd_group_fourteen_dn
-- Byte35 : dest_acd_group_fourteen_dn_count
-- Bytes36-37 : dest_acd_pwf_fourteen
-- Bytes38-39 : dest_acd_ri_fourteen
-- Bytes40-41 : ibnrte_fourteen
-- Bytes42-46 : dest_acd_group_fifteen_dn
-- Byte47 : dest_acd_group_fifteen_dn_count
-- Bytes48-49 : dest_acd_pwf_fifteen
-- Bytes50-51 : dest_acd_ri_fifteen
-- Bytes52-53 : ibnrte_fifteen
-- Bytes54-58 : dest_acd_group_sixteen_dn

```
    -- Byte59       : dest_acd_group_sixteen_dn_count
    -- Bytes60-61   : dest_acd_pwf_sixteen
    -- Bytes62-63   : dest_acd_ri_sixteen
    -- Bytes64-65   : ibnrte_sixteen
    -- Bytes66-70   : dest_acd_group_seventeen_dn
    -- Byte71       : dest_acd_group_seventeen_dn_count
    -- Bytes72-73   : dest_acd_pwf_seventeen
    -- Bytes74-75   : dest_acd_ri_seventeen
    -- Bytes76-77   : ibnrte_seventeen
    -- Bytes78-82   : dest_acd_group_eighteen_dn
    -- Byte83       : dest_acd_group_eighteen_dn_count
    -- Bytes84-85   : dest_acd_pwf_eighteen
    -- Bytes86-87   : dest_acd_ri_eighteen
    -- Bytes88-89   : ibnrte_eighteen
    -- Bytes90-94   : dest_acd_group_nineteen_dn
    -- Byte 95      : dest_acd_group_nineteen_dn_count
    -- Bytes96-97   : dest_acd_pwf_nineteen
    -- Bytes98-99   : dest_acd_ri_nineteen
    -- Bytes100-101 : ibnrte_nineteen
    -- Bytes102-106 : dest_acd_group_twenty_dn
    -- Byte107      : dest_acd_group_twenty_dn_count
    -- Bytes108-109 : dest_acd_pwf_twenty
    -- Bytes110-111 : dest_acd_ri_twenty
    -- Bytes112-113 : ibnrte_twenty
    -- Bytes114-118 : dest_acd_group_twenty_one_dn
    -- Byte119      : dest_acd_group_twenty_one_dn_count
    -- Bytes120-121 : dest_acd_pwf_twenty_one
    -- Bytes122-123 : dest_acd_ri_twenty_one
    -- Bytes124-125 : ibnrte_twenty_one
    -- Bytes126-130 : dest_acd_group_twenty_two_dn
    -- Byte131      : dest_acd_group_twenty_two_dn_count
    -- Bytes132-133 : dest_acd_pwf_twenty_two
    -- Bytes134-135 : dest_acd_ri_twenty_two
    -- Bytes136-137 : ibnrte_twenty_two
    -- Bytes138-142 : dest_acd_group_twenty_three_dn
    -- Byte143      : dest_acd_group_twenty_three_dn_count
    -- Bytes144-145 : dest_acd_pwf_twenty_three
    -- Bytes146-147 : dest_acd_ri_twenty_three
    -- Bytes148-149 : ibnrte_twenty_three
    -- Bytes150-154: dest_acd_group_twenty_four_dn
    -- Byte155      : dest_acd_group_twenty_four_dn_count
    -- Bytes156-157: dest_acd_pwf_twenty_four
    -- Bytes158-159: dest_acd_ri_twenty_four
    -- Bytes160-161: ibnrte_twenty_four
ACDNetworkGroupRoutingDataT     [2]  IMPLICIT OCTET STRING,
    -- Bytes0-4     : node_id
    -- Byte5        : node_id_dn_count
```

```
    -- Bytes6-10   : src_acd_group_dn
    -- Byte11      : src_acd_group_dn_count
    -- Bytes12-13  : no_of_groups_three
    -- Bytes14-15  : calcualted_ri_vector
    -- Bytes16-17  : remote_group_vector
    -- Bytes18-22  : dest_acd_group_twenty_five_dn
    -- Byte23      : dest_acd_group_twenty_five_dn_count
    -- Bytes24-25  : dest_acd_pwf_twenty_five
    -- Bytes26-27  : dest_acd_ri_twenty_five
    -- Bytes28-29  : ibnrte_twenty-five
    •       •
    •       •
    -- Bytes150-154:  dest_acd_group_thirty_six_dn
    -- Byte155     : dest_acd_group_thirty_six_dn_count
    -- Bytes156-157:  dest_acd_pwf_thirty_six
    -- Bytes158-159:  dest_acd_ri_thirty_six
    -- Bytes160-161:  ibnrte_thirty_six
  ACDNetworkGroupRoutingDataF    [3]  IMPLICIT OCTET STRING  }
    -- Bytes0-4    : node_id
    -- Byte5       : node_id_dn_count
    -- Bytes6-10   : src_acd_group_dn
    -- Byte11      : src_acd_group_dn_count
    -- Bytes12-13  : no_of_groups_four
    -- Bytes14-15  : calculated_ri_vector
    -- Bytes16-17  : remote_group_vector
    -- Bytes18-22  : dest_acd_group_thirty_seven_dn
    -- Byte23      : dest_acd_group_thirty_seven_dn_count
    -- Bytes24-25  : dest_acd_pwf_thirty_seven
    -- Bytes26-27  : dest_acd_ri_thirty_seven
    -- Bytes28-29  : ibnrte_thirty_seven
    •       •
    •       •
    -- Bytes150-154:  dest_acd_group_fourty_eight_dn
    -- Byte155     : dest_acd_group_fourty_eight_
    -- Bytes156-157:  dest_acd_pwf_fourty_eight
    -- Bytes158-159:  dest_acd_ri_fourty_eight
    -- Bytes160-161:  ibnrte_fourty_eight
```

3.3.3 ACD VFG OM Messages (Operation Value “1B” Hex)

These event messages are sent from the Switch to the DSP, on a 15 minute basis, as ACD calls are queued, answered and released. They provide information regarding the Virtual Facility Group associated with the ACD groups in this pool. Each message contains information on up to six different VFGs. A maximum of 43 messages will be sent if there are more than 252 VFGs associated with the ACD groups in this pool. A minimum of zero messages will be sent if there are no associated VFGs. Each message contains the following fields:

NODE_ID
NODE_ID_DN_COUNT
VFG_COUNT
VFG_TOD
VFG_INDEX_ONE
VFGTOTAL_ONE
VFGBLCKD_ONE
VFGLSCBL_ONE
VFGTRU_ONE
VFGIWATT_ONE
VFGIWOVF_ONE
VFGIWTRU_ONE
VFG_INDEX_TWO
VFGTOTAL_TWO
VFGBLCKD_TWO
VFGLSCBL_TWO
VFGTRU_TWO
VFGIWATT_TWO
VFGIWOVF_TWO
VFGIWTRU_TWO
VFG_INDEX_THREE
VFGTOTAL_THREE
VFGBLCKD_THREE
VFGLSCBL_THREE
VFGTRU_THREE
VFGIWATT_THREE
VFGIWOVF_THREE
VFGIWTRU_THREE
VFG_INDEX_FOUR
VFGTOTAL_FOUR
VFGBLCKD_FOUR
VFGLSCBL_FOUR
VFGTRU_FOUR
VFGIWATT_FOUR
VFGIWOVF_FOUR
VFGIWTRU_FOUR
VFG_INDEX_FIVE
VFGTOTAL_FIVE
VFGBLCKD_FIVE
VFGLSCBL_FIVE
VFGTRU_FIVE
VFGIWATT_FIVE
VFGIWOVF_FIVE
VFGIWTRU_FIVE
VFG_INDEX_SIX
VFGTOTAL_SIX
VFGBLCKD_SIX

VFGLSCBL_SIX
VFGTRU_SIX
VFGIWATT_SIX
VFGIWOVF_SIX
VFGIWTRU_SIX

NODE_ID is the number which identifies the ACD Switch in the network.

NODE_ID_DN_COUNT specifies the number of digits in the NODE_ID. The NODE_ID can be up to ten digits.

VFG_COUNT specifies the number of VFG entries in this message, (range: 1 to 6).

VFG_TOD indicates the time of day, in hours, minutes, seconds, (24-hour format) when the VFGs were collected on the switch.

VFG_INDEX_ONE specifies an entry in the virtual facility group table.

VFGTOTAL_ONE indicates the total number of incoming and outgoing call attempts utilizing this VFG.

VFGBLCKD_ONE indicates the total number of incoming and outgoing call attempts that were blocked due to unavailability of the VFG.

VFGLSCBL_ONE indicates the total number of outgoing call attempts that were blocked due to the Line Screening Code Restriction of the VFG.

VFGTRU_ONE indicates the usage count of the VFG that is busy on calls. The scan rate is 100 seconds.

VFGIWATT_ONE indicates the total number of INWATS call attempts utilizing the VFG.

VFGIWOVF_ONE indicates the total number of INWATS call attempts that were blocked due to unavailability of the VFG.

VFGIWTRU_ONE indicates the usage count of the VFG that is busy on INWATS calls. The scan rate is 10 seconds.

VFG_INDEX_TWO specifies an entry in the virtual facility group table.

VFGTOTAL_TWO indicates the total number of incoming and outgoing call attempts utilizing this VFG.

VFGBLCKD_TWO indicates the total number of incoming and outgoing call attempts that were blocked due to unavailability of the VFG.

VFGLSCBL_TWO indicates the total number of outgoing call attempts that were blocked due to the Line Screening Code Restriction of the VFG.

VFGTRU_TWO indicates the usage count of the VFG that is busy on calls. The scan rate is 100 seconds.

VFGIWATT_TWO indicates the total number of INWATS call attempts utilizing the VFG.

VFGIWOVF_TWO indicates the total number of INWATS call attempts that were blocked due to unavailability of the VFG.

VFGIWTRU_TWO indicates the usage count of the VFG that is busy on INWATS calls. The scan rate is 10 seconds.

VFG_INDEX_THREE specifies an entry in the virtual facility group table.

VFGTOTAL_THREE indicates the total number of incoming and outgoing call attempts utilizing this VFG.

VFGBLCKD_THREE indicates the total number of incoming and outgoing call attempts that were blocked due to unavailability of the VFG.

VFGLSCBL_THREE indicates the total number of outgoing call attempts that were blocked due to the Line Screening Code Restriction of the VFG.

VFGTRU_THREE indicates the usage count of the VFG that is busy on calls. The scan rate is 100 seconds.

VFGIWATT_THREE indicates the total number of INWATS call attempts utilizing the VFG.

VFGIWOVF_THREE indicates the total number of INWATS call attempts that were blocked due to unavailability of the VFG.

VFGIWTRU_THREE indicates the usage count of the VFG that is busy on INWATS calls. The scan rate is 10 seconds.

VFG_INDEX_FOUR specifies an entry in the virtual facility group table.

VFGTOTAL_FOUR indicates the total number of incoming and outgoing call attempts utilizing this VFG.

VFGBLCKD_FOUR indicates the total number of incoming and outgoing call attempts that were blocked due to unavailability of the VFG.

VFGLSCBL_FOUR indicates the total number of outgoing call attempts that were blocked due to the Line Screening Code Restriction of the VFG.

VFGTRU_FOUR indicates the usage count of the VFG that is busy on calls. The scan rate is 100 seconds.

VFGIWATT_FOUR indicates the total number of INWATS call attempts utilizing the VFG.

VFGIWOVF_FOUR indicates the total number of INWATS call attempts that were blocked due to unavailability of the VFG.

VFGIWTRU_FOUR indicates the usage count of the VFG that is busy on INWATS calls. The scan rate is 10 seconds.

VFG_INDEX_FIVE specifies an entry in the virtual facility group table.

VFGTOTAL_FIVE indicates the total number of incoming and outgoing call attempts utilizing this VFG.

VFGBLCKD_FIVE indicates the total number of incoming and outgoing call attempts that were blocked due to unavailability of the VFG.

VFGLSCBL_FIVE indicates the total number of outgoing call attempts that were blocked due to the Line Screening Code Restriction of the VFG.

VFGTRU_FIVE indicates the usage count of the VFG that is busy on calls. The scan rate is 100 seconds.

VFGIWATT_FIVE indicates the total number of INWATS call attempts utilizing the VFG.

VFGIWOVF_FIVE indicates the total number of INWATS call attempts that were blocked due to unavailability of the VFG.

VFGIWTRU_FIVE indicates the usage count of the VFG that is busy on INWATS calls. The scan rate is 10 seconds.

VFG_INDEX_SIX specifies an entry in the virtual facility group table.

VFGTOTAL_SIX indicates the total number of incoming and outgoing call attempts utilizing this VFG.

VFGBLCKD_SIX indicates the total number of incoming and outgoing call attempts that were blocked due to unavailability of the VFG.

VFGLSCBL_SIX indicates the total number of outgoing call attempts that were blocked due to the Line Screening Code Restriction of the VFG.

VFGTRU_SIX indicates the usage count of the VFG that is busy on calls. The scan rate is 100 seconds.

VFGIWATT_SIX indicates the total number of INWATS call attempts utilizing the VFG.

VFGIWOVF_SIX indicates the total number of INWATS call attempts that were blocked due to unavailability of the VFG.

VFGIWTRU_SIX indicates the usage count of the VFG that is busy on INWATS calls. The scan rate is 10 seconds.

3.3.3.1 switchSendVFGOm X.409 notation

```
switchSendVFGOmOPERATION
    ARGUMENT
        {AcdVFGOm}
    ::= 27
```

3.3.3.1.1 ACDVFGOm

```
ACDVFGOm::= OCTET STRING
        -- Bytes0-4          : node_id
        -- Byte5             : node_id_dn_count
        -- Bytes6-8          : vfg_tod
        -- Byte9             : vfg_count
        -- Bytes10-11        : vfg_index_one
        -- Bytes12-13        : vfgtotal_one
        -- Bytes14-15        : vfgblckd_one
        -- Bytes16-17        : vfglscbl_one
        -- Bytes18-19        : vfgtru_one
        -- Bytes20-21        : vfgiwatt_one
        -- Bytes22-23        : vfgiwovf_one
        -- Bytes24-25        : vfgiwtru_one
        -- Bytes26-27        : vfg_index_two
        -- Bytes28-29        : vfgtotal_two
        -- Bytes30-31        : vfgblckd_two
        -- Bytes32-33        : vfglscbl_two
        -- Bytes34-35        : vfgtru_two
        -- Bytes36-37        : vfgiwatt_two
        -- Bytes38-39        : vfgiwovf_two
        -- Bytes40-41        : vfgiwtru_two
        -- Bytes42-43        : vfg_index_three
        -- Bytes44-45        : vfgtotal_three
        -- Bytes46-47        : vfgblckd_three
        -- Bytes48-49        : vfglscbl_three
        -- Bytes50-51        : vfgtru_three
        -- Bytes52-53        : vfgiwatt_three
        -- Bytes54-55        : vfgiwovf_three
        -- Bytes56-57        : vfgiwtru_three
```

```
-- Bytes58-59      : vfg_index_four
-- Bytes60-61      : vfgtotal_four
-- Bytes62-63      : vfgblckd_four
-- Bytes64-65      : vfglscbl_four
-- Bytes66-67      : vfgtru_four
-- Bytes68-69      : vfgiwatt_four
-- Bytes70-71      : vfgiwovf_four
-- Bytes72-73      : vfgiwtru_four
-- Bytes74-75      : vfg_index_five
-- Bytes76-77      : vfgtotal_five
-- Bytes78-79      : vfgblckd_five
-- Bytes80-81      : vfglscbl_five
-- Bytes82-83      : vfgtru_five
-- Bytes84-85      : vfgiwatt_five
-- Bytes86-87      : vfgiwovf_five
-- Bytes88-89      : vfgiwtru_five
-- Bytes90-91      : vfg_index_six
-- Bytes92-93      : vfgtotal_six
-- Bytes94-95      : vfgblckd_six
-- Bytes96-97      : vfglscbl_six
-- Bytes98-99      : vfgtru_six
-- Bytes100-101    : vfgiwatt_six
-- Bytes102-103    : vfgiwovf_six
-- Bytes104-105    : vfgiwtru_six
```

3.3.4 ACD Call/Agent Position Event Messages (Operation Value “10” Hex)

The following ACD event messages are sent from the Switch to the DSP as ACD calls are queued, answered, and released.

1 ACDCallOffered - Section 3.3.4.1 on page 91.

2 ACDCallAnswered - Section 3.3.4.2 on page 96.

3 ACDCallNetworkAnswered - Section 3.3.4.3 on page 100.

4 ACDCallAbandoned - Section 3.3.4.4 on page 104.

5 ACDCallReleased - Section 3.3.4.5 on page 107.

6 ACDCallBlocked - Section 3.3.4.6 on page 110.

7 AgentPositionEvent - Section 3.3.4.7 on page 111.

8 ACDCallTransferred - Section 3.3.4.8 on page 118.

For specific event scenarios please refer to Chapter 7.0.

3.3.4.1 ACDCallOffered

This ACD Event message provides information relating to a call which is offered to an ACD group. The message contains the following fields:

CALL_OFFERED_SGRP_DN
CALL_OFFERED_SGRP_DN_COUNT
CALL_OFFERED_DGRP_DN
CALL_OFFERED_DGRP_DN_COUNT
CALL_OFFERED_TOD
CALL_OFFERED_CSTATUS
CALL_OFFERED_NUMICQ_P
CALL_OFFERED_NUMICQ_L
CALL_OFFERED_ACD_DN
CALL_OFFERED_ACD_DN_COUNT
CURRENT_P_CALL_Q_WAIT_TIME
CURRENT_L_CALL_Q_WAIT_TIME
CALL_OFFERED_DGRP_AGPOSNID
CALL_TRANSFER_STATUS
CALL_TRANSFER_DIFF_CUST_GROUP
CALL_XFERING_PARKING_DN
CALL_XFERING_PARKING_DN_CNT
CALL_XFERING_PARKING_AGPOSNID
CALL_OFFERED_CALLING_NUMBER
CALL_OFFERED_CALLING_NUMBER_CNT
CALL_OFFERED_RECALL_DN
CALL_OFFERED_RECALL_DN_CNT

CALL_OFFERED_SGRP_DN is the Primary ACD-DN of the source group to which the call was initially presented. The source group is either (1) the same as the destination group if the call was not deflected to the destination group or (2) different from the destination group if the call was deflected to the destination group. The source group is normally the group the call was initially presented to, EXCEPT if this is a Networked ACD Time Delay Overflow Call (CALL_OFFERED_CSTATUS was 6, 7, 8, or 9). In that case, the source group is the group where the call was physically queued, which can or cannot be where the call was first presented.

CALL_OFFERED_SGRP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the source ACD group. The ACD-DN can be up to ten digits.

CALL_OFFERED_DGRP_DN is the Primary ACD-DN of the destination group that is receiving the call.

CALL_OFFERED_DGRP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the destination ACD group. The ACD-DN can be up to ten digits.

CALL_OFFERED_TOD is the time of day in hours, minutes, and seconds (24-hour format) that the call was offered to the destination ACD group.

CALL_OFFERED_CSTATUS can have one of the following values to indicate the status of the call offered to the destination ACD group (range: 0 to 21):

0 - The ACD call terminated on an agent position in the destination ACD group without being queued.

1 - The ACD call is being queued in the destination ACD group's Incoming Call Queue.

2 - The ACD call is being deflected to the destination ACD group's threshold route because the destination ACD group's Incoming Call Queue Size or Maximum Wait Time has been exceeded.

Note: if no overflow groups are filled in the table ACDRTE or if the search for an overflow group that can accept a call is not successful then the call goes to the threshold route and this CSTATUS is used.

3 - The ACD call cannot be overflowed again and is being given treatment.

4 - The ACD call is being deflected because the destination ACD group is in Night Service.

5 - The ACD call is being deflected because the destination ACD group's queue or wait threshold has been exceeded (Networked ACD).

6 - The ACD call is being logically queued at the destination ACD group.

7 - The ACD call is being forced to queue in the destination ACD group's Incoming Call Queue (although the queue or wait threshold has been exceeded) because no other groups were available (Networked ACD).

8 - The Networked ACD call terminated on an agent position in the destination ACD group without being queued.

9 - The Networked ACD call is being queued in the destination ACD group's incoming Call Queue.

10 - The ACD call is being deflected because the destination ACD group is in Controlled Interflow state.

11- The Time Delay Overflowed call has terminated on an agent position in the destination ACD group without being queued.

12 - The ACD transferred call terminated to an agent position in the group without being queued.

13 - The ACD transferred call is being queued at the destination ACD group.

14 - The ACD group is in night service: the caller is being given night service recorded announcement and will be deflected to the group's night service route.

15 - The ACD call is immediately deflected to the Time Delay Threshold route of the destination ACD group because both Time Delay and Time Delay Threshold timers are set to zero, and no agents are available in the destination ACD group or the destination ACD group's overflow group.

16 - The ACD call is being deflected to the Time Delay Threshold route of the source ACD group This call was queued at the source ACD group, and when Time Delay expired, there were no agents available at the destination group, and the Time Delay Threshold timer for the source ACD group was set to zero.

17 - The ACD call is a recall from call park after the timer for the call park (range 12 to 240 seconds set at the switch) has expired and the call has not been retrieved.The call can be parked by an agent against own DN or a DN belonging to the agent's customer group. It can be retrieved from any set within the same customer group. The Call Park Recall is an optional ACD group feature entered against the agent's ACD group.

Note 1: An ACDCallOffered message with CALL_OFFERED_CSTATUS 17 is sent to the DSP only when the recall is requeued on the source ACD group due to the source agent position from where the call was parked being busy, not ready or logged out. If the recall is answered when presented to the source agent, then no ACD call event or AgentPositionEvent messages are sent to the DSP.

Note 2: The information on the timer setting is accessible by the ACD Administrator at the switch through ACDSHOW.

18 - The ACD call is a recall from ACD transfer after the timer for the transfer (range 12 to 120 seconds set at the switch) has expired and the transferred call has not been answered. This is valid only if the transferred call is originated by an agent to a DN within the agent's customer group. The ACD Transfer Recall is an optional ACD group feature entered against the agent's ACD group.

Note 1: An ACDCallOffered message with CALL_OFFERED_CSTATUS 18 is sent to the DSP only when the recall is requeued on the source ACD

group due to the source agent position from where the call was transferred being busy, not ready, logged out or does not answer the call before the ring threshold timer has expired. If the recall is answered when presented to the source agent, then no ACD call event or AgentPositionEvent messages are sent to the DSP.

Note 2: The information on the timer setting is accessible by the ACD Administrator at the switch through ACDSHOW.

19 - The ACD call, that was presented to an idle agent, has been placed back in the INCALLS queue because:

1 the agent was forced out due to expiration of the time specified in field ACDRNGTH in table ACDGRP

OR

2 the agent depressed the ACDNR key when no other agents were available to take the call. This message is used to notify the DSP of the updated queue size.

Note: This message is only sent when no other agents are available.

20 - The ACD call is being deflected, using an enhanced overflow feature, to another ACDGRP group because the destination ACD group's Incoming Call Queue Size or Maximum Wait Time has been exceeded.

Note: if an overflow group, filled in the table ACDRTE, can accept a call it is overflowed and this CSTATUS is used.

21 - The ACD call has been deflected to the Re-enqueue Route.

CALL_OFFERED_NUMICQ_P is the total number of calls physically queued in the destination ACD group's Incoming Call Queue at the time this call was offered (range: 0 to 511).

CALL_OFFERED_NUMICQ_L is the total number of calls logically queued in the destination ACD group's Overflow In Queue at the time this call was offered (range: 0 to 511).

CALL_OFFERED_ACD_DN identifies the ACD-DN of the source ACD group from which the ACD call came (either Primary or Supplementary, it preserves the service identification). Supported for Nodal ACD only.

CALL_OFFERED_ACD_DN_COUNT specifies the number of digits in the CALL_OFFERED_ACD_DN which can be up to ten digits.

CURRENT_P_CALL_Q_WAIT_TIME is the time (range: 0 to 1800 seconds) that the call at the front of the destination ACD group's incoming

physical call queue has been waiting. This field has a value of zero if no calls are queued.

CURRENT_L_CALL_Q_WAIT_TIME is the time (range: 0 to 1800 seconds) that the call at the front of the destination ACD group's Overflow In Queue has been waiting. This field has a value of zero if no calls are queued.

CALL_OFFERED_DGRP_AGPOSNID is the position ID of the agent that is receiving the transferred call. This field is only valid for agent to agent transfers (CALL_TRANSFER_STATUS = 0). A zero indicates the transferred to agent was not assigned a position ID at datafill time.

CALL_TRANSFER_STATUS indicates specifically the type of CALL TRANSFER for this message. This field is valid when the call is a transferred call as indicated by CALL_OFFERED_CSTATUS value 12 or 13 as well as a call which was originally transferred and then overflowed.
0 = Transfer in to Agent from Agent
1 = Transfer in to Group from Agent
2 = Transfer in to Group from SDN
3 = Transfer in to Group from non-ACD
255 = not a transfer; transfer field not valid.

CALL_TRANSFER_DIFF_CUST_GROUP indicates if this call was transferred across customer groups (value = 1) or within the same customer group (value = 0).

CALL_XFERING_PARKING_DN is the Primary ACD-DN of the source ACD group of the agent that transferred or Parked the call. If this is a transfer from outside of ACD (as defined by the CALL_TRANSFER_STATUS), this is the non-ACD DN (on this switch) that transferred the call.

CALL_XFERING_PARKING_DN_CNT specifies the number of digits in the CALL_XFERING_PARKING_DN. The DN can be up to 10 digits.

CALL_XFERING_PARKING_AGPOSNID is the position ID of the agent that is transferring or Parking the call. A zero indicates the transferring agent was not assigned a position ID at datafill time.

CALL_OFFERED_CALLING_NUMBER is the calling party's Directory Number. The calling number is available when operating with the E911 package on the switch otherwise it is zero.

CALL_OFFERED_CALLING_NUMBER_CNT specifies the number of digits in the CALLING_NUMBER. The CALLING_NUMBER can be up to 10 digits.

CALL_OFFERED_RECALL_DN This is the directory number (DN) that the recall was transferred to or parked against. This information is valid when the call is a recall call as indicated by CALL_OFFERED_CSTATUS 17 or 18.

CALL_OFFERED_RECALL_DN_CNT This is the number of the digits in the DN the recall was transferred to or parked against. This information is valid when the call is a recall call as indicated by CALL_OFFERED_CSTATUS 17 or 18.

3.3.4.1.1 switchSendEvent

switchSendEventOPERATION
    ARGUMENT
        { AcdEvent }
    ::= 16

3.3.4.1.2 ACDEvent

ACDEvent ::= CHOICE
    ACDCallOffered[0] IMPLICIT OCTET STRING,

-- Bytes0-4	:	call_offered_sgrp_dn
-- Byte5	:	call_offered_sgrp_dn_count
-- Bytes6-10	:	call_offered_dgrp_dn
-- Byte11	:	call_offered_dgrp_dn_count
-- Bytes12-14	:	call_offered_tod
-- Byte15	:	call_offered_cstatus
-- Bytes16-17	:	call_offered_numicq_p
-- Bytes18-19	:	call_offered_numicq_l
-- Bytes20-24	:	call_offered_acd_dn
-- Byte25	:	call_offered_acd_dn_count
-- Bytes26-27	:	current_p_call_q_wait_time
-- Bytes28-29	:	current_l_call_q_wait_time
-- Bytes30-31	:	call_offered_dgrp_agposnid
-- Byte32	:	call_transfer_status
-- Byte33	:	call_offered_diff_cust_group
-- Bytes34-38	:	call_transferring_dn
-- Byte39	:	call_transferring_dn_count
-- Bytes40-41	:	call_transferring_agposnid
-- Bytes42-46	:	call_offered_calling_number
-- Byte47	:	call_offered_calling_number_count
-- Bytes48-52	:	call_recall_dn
-- Byte53	:	call_recall_dn_count
-- Byte54-55	:	call_recalled_acdposnid

3.3.4.2 ACDCallAnswered

This ACD Event message provides information about the ACD call that has been answered by an agent. The message contains the following fields:

CALL_ANSWERED_SGRP_DN
CALL_ANSWERED_SGRP_DN_COUNT
CALL_ANSWERED_DGRP_DN
CALL_ANSWERED_DGRP_DN_COUNT
CALL_ANSWERED_ACD_DN
CALL_ANSWERED_ACD_DN_COUNT
CALL_ANSWERED_NUMICQ_P
CALL_ANSWERED_NUMICQ_L
CALL_ANSWERED_AGPOSNID
CALL_ANSWERED_LOGINID
CALL_ANSWERED_DELAY
CALL_ANSWERED_TOD
CALL_ANSWERED_CSTATUS
CURRENT_P_CALL_Q_WAIT_TIME
CURRENT_L_CALL_Q_WAIT_TIME
CALL_ANSWERED_CALLING_NUMBER
CALL_ANSWERED_CALLING_NUMBER_COUNT
CALL_ANSWERED_RECALL_DN
CALL_ANSWERED_RECALL_DN_CNT
CALL_ANSWERED_RECALLED_AGPOSNID

CALL_ANSWERED_SGRP_DN is the Primary ACD-DN of the source group to which the call was initially presented. The source group is either (1) the same as the destination group, if the call was not deflected to the destination group or (2) different from the destination group if the call was deflected to the destination group. In addition, the source group is normally the group the call was initially presented to EXCEPT if this is a Networked ACD Time Delay Overflow Call (CALL_OFFERED_CSTATUS was 6, 7, 8, or 9 - see Section 3.3.4.1 on page 91). In that case, the source group is the group where the call was physically queued, which can or cannot be where the call was first presented.

CALL_ANSWERED_SGRP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the source ACD group. The ACD-DN can be up to ten digits.

CALL_ANSWERED_DGRP_DN is the Primary ACD-DN of the destination group that has answered the call.

CALL_ANSWERED_DGRP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the destination ACD group. The ACD-DN can be up to ten digits.

CALL_ANSWERED_ACD_DN identifies the ACD-DN in the source ACD group from which the ACD call came in (either Primary or Supplementary, it preserves the service identification). This is supported for nodal ACD calls only.

CALL_ANSWERED_ACD_DN_COUNT specifies the number of digits in the CALL_ANSWERED_ACD_DN which can be up to ten digits.

CALL_ANSWERED_NUMICQ_P is the total number of physical calls queued in the destination ACD group's Incoming Call Queue at the time this call was answered (range: 0 to 511).

CALL_ANSWERED_NUMICQ_L is the total number of logical calls queued in the destination ACD group's Overflow In Queue at the time this call was answered (range: 0 to 511).

CALL_ANSWERED_AGPOSNID is the position ID of the agent answering the call (range: 1 to 9999). A zero indicates that the event occurred on a position that was not assigned a position ID at the datafill time.

CALL_ANSWERED_LOGINID is the agent login ID of the agent answering he call (range: 1 to 9999).

CALL_ANSWERED_DELAY is the answer delay time in seconds (range: 0 to 32000 sec). This is the difference between the time the call was offered to the source ACD group and the time it was answered by an agent in the destination group. The total includes both the time the call was queued and the time the call rang at an agent position.

CALL_ANSWERED_TOD is the time of day in hours, minutes, and seconds (24-hour format) when the call was answered.

CALL_ANSWER_CSTATUS can have a value (range: 0 to 127) to indicate the status of the answered call. The status is based on the following seven factors:

PARK RCL: The call is a recall from call park. PARK RCL is sent to the DSP only when the recall is answered after being requeued on the source ACD group due to the source agent position from where the call was parked being busy, not ready, or logged out. If the recall is answered when presented to the source agent, then no ACD call event or AgentPositionEvent messages are sent to the DSP.

XFR RCL: The call is a recall from call transfer. XFR RCL is sent to the DSP only when the recall is answered after being requeued on the source ACD group due to the source agent position from where the call was transferred being busy, not ready, or logged out. If the recall is answered when presented to the source agent, then no ACD call event or AgentPositionEvent messages are sent to the DSP.

CXR: The call was transferred into this group.

TIME OVFL: The call was time overflowed to another ACD Group.

RAN: The call was given Recorded Announcement.

BLOCKED: An attempt was made to deflect/overflow the call, but failed.

L_QUEUED: The call was logically queued at this group.

These are ordered from the least significant bit (rightmost) to the most significant bit (leftmost) as indicated by the hex bit-mask:

Table 3-3 Hex Bit-mask

Status	PARK RCL	XFR RCL	CXR	TIME OVFL	RAN	BLO-CKED	L_QU-EUED
0 - 127	N - Y	N - Y	N - Y	N - Y	N - Y	N - Y	N - Y
Hex Bit-Mask	40	20	10	08	04	02	01

Note: N = bit value '0' and Y = bit value '1'

CURRENT_P_CALL_Q_WAIT_TIME is the time (range: 0 to 1800 seconds) that the call at the front of the destination ACD group incoming physical call queue has been waiting. This field has a value of zero if no calls are queued.

CURRENT_L_CALL_Q_WAIT_TIME is the time (range: 0 to 1800 seconds) that the call at the front of the destination ACD group's overflow In Queue has been waiting. This field has a value of zero if no calls are queued.

CALL_ANSWERED_CALLING_NUMBER is the calling party's Directory Number. The calling number is available when operating with the E911 package on the switch otherwise it is zero.

CALL_ANSWERED_CALLING_NUMBER_COUNT specifies the number of digits in the CALLING_NUMBER. The CALLING_NUMBER can be up to 10 digits.

CALL_ANSWERED_RECALL_DN This is the directory number (DN) that the recall was transferred to or parked against. This information is valid when the call is a recall call as indicated by CALL_ANSWERED_CSTATUS PARK RCL or XFR RCL bits is set.

CALL_ANSWERED_RECALL_DN_CNT This is the number of the digits in the DN the recall was transferred to or parked against. This information is valid when the call is a recall call as indicated by CALL_OFFERED_CSTATUS 17 or 18.

CALL_ANSWERED_RECALLED_AGPOSNID This is the position ID of the agent who originally transferred or parked the call.

3.3.4.2.1 switchSendEvent

switchSendEventOPERATION
    ARGUMENT
        { AcdEvent }
    ::= 16

3.3.4.2.2 ACDEvent

ACDEvent ::= CHOICE
    ACDCallAnswered [1] IMPLICIT OCTET STRING,
        -- Bytes0-4 : call_answered_sgrp_dn
        -- Byte5 : call_answered_sgrp_dn_count
        -- Bytes6-10 : call_answered_dgrp_dn
        -- Byte 11 : call_answered_dgrp_dn_count
        -- Bytes12-13 : call_answered_numicq_p
        -- Bytes14-15 : call_answered_numicq_l
        -- Bytes16-17 : call_answered_agposnid
        -- Bytes18-19 : call_answered_loginid
        -- Bytes20-21 : call_answered_delay
        -- Bytes22-24 : call_answered_tod
        -- Byte 25 : call_answered_cstatus
        -- Bytes26-27 : current_p_call_q_wait_time
        -- Bytes28-29 : current_l_call_q_wait_time
        -- Bytes30-34 : call_answered_acd_dn
        -- Byte35 : call_answered_acd_dn_count
        -- Bytes36-40 : call_answered_calling_number
        -- Byte41 : call_answered_calling_number_count
        -- Bytes 42-46 : call_recall_dn
        -- Byte 47 : call_recall_dn_count
        -- Bytes 48-49 : call_recalled_acdposnid

3.3.4.3 ACDCallNetworkAnswered

This ACD Event message is generated from the other node when a logically queued call is answered. The message informs the MIS associated with the node at which the same call is also queued that the call has been answered. The message contains the following fields:

CALL_NETWORK_ANSWERED_SGRP_DN
CALL_NETWORK_ANSWERED_SGRP_DN_COUNT
CALL_NETWORK_ANSWERED_DGRP_DN

CALL_NETWORK_ANSWERED_DGRP_DN_COUNT
CALL_NETWORK_ANSWERED_ACD_DN
CALL_NETWORK_ANSWERED_ACD_DN_COUNT
CALL_NETWORK_ANSWERED_TOD
CALL_NETWORK_ANSWERED_CSTATUS
CALL_NETWORK_ANSWERED_DELAY
CALL_NETWORK_ANSWERED_NUMICQ_P
CALL_NETWORK_ANSWERED_NUMICQ_L
CURRENT_P_CALL_Q_WAIT_TIME
CURRENT_L_CALL_Q_WAIT_TIME
CALL_NETWORK_ANSWERED_CALLING_NUMBER
CALL_NETWORK_ANSWERED_CALLING_NUMBER_COUNT

CALL_NETWORK_ANSWERED_SGRP_DN identifies the source ACD-DN of this group for the ACD call. The source group is either (1) the same as the destination group, if the call was not deflected to the destination group or (2) different from the destination group if the call was deflected to the destination group. In addition, the source group is normally the group the call was initially presented to EXCEPT if this is a Networked ACD Time Delay Overflow Call (CALL_OFFERED_CSTATUS was 6, 7, 8, or 9- see Section 3.3.2 on page 49). In that case, the source group is the group where the call was physically queued, which can or cannot be where the call was first presented.

CALL_NETWORK_ANSWERED_SGRP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the source ACD group. The ACD-DN can be up to ten digits.

CALL_NETWORK_ANSWERED_DGRP_DN identifies the destination ACD-DN of this group for the ACD call. The destination group is the ACD group for which this Network Answered message is sent. It indicates that an ACD call which was presented to the destination ACD group has been answered elsewhere.

CALL_NETWORK_ANSWERED_DGRP_DN_COUNT specifies the number of digits in the ACD-DN of the destination ACD group. The ACD-DN can be up to ten digits.

CALL_NETWORK_ANSWERED_TOD is the time of day in hours, minutes, and seconds (24-hour format) when the agent answered the call.

CALL_NETWORK_ANSWERED_CSTATUS indicates the status of the Network Answered call (range: 0 to 31). The status is based on the following five factors:

TIME THR: The call was routed to the Time Threshold Route.

TIME OVFL: The call was time overflowed to another ACD Group.

RAN: The call was given Recorded Announcement.

BLOCKED: An attempt was made to deflect/overflow the call, but failed.

L_QUEUED: The call was logically queued at this group.

These are ordered from the least significant bit (rightmost) to the most significant bit (leftmost) as indicated by the hex bit-mask:

Table 3-4 Hex Bit-mask

Status	TIME THR	TIME OVFL	RAN	BLO-CKED	L_QU-EUED
0	N	N	N	N	N
-	-	-	-	-	-
31	Y	Y	Y	Y	Y
Hex Bit-Mask	10	08	04	02	01

Note: N = bit value '0' and Y = bit value '1'

CALL_NETWORK_ANSWERED_DELAY is time in seconds (range: 0 to 32000) that the caller waited before the call was answered The answered delay is the difference between the time the call was originally offered to the source ACD group and the time the agent answered the call. The answered delay time includes one or both of the following times:

— the total time the call was in the Incoming Call Queue

— the total time the call rang at the agent position

CALL_NETWORK_ANSWERED_ NUMICQ_P is the total number of calls queued in the destination ACD group's physical call queue at the time the call was answered (range: 0 to 511).

CALL_NETWORK_ANSWERED_ NUMICQ_L is the total number of calls queued in the destination ACD group's logical call queue at the time the call was answered (range: 0 to 511).

CURRENT_P_CALL_Q_WAIT_TIME is the time (range: 0 to 1800 seconds) that the call at the front of the destination ACD group incoming physical call queue has been a waiting. This field has a value of zero if no calls are queued.

CURRENT_L_CALL_Q_WAIT_TIME is the time (range: 0 to 1800 seconds) that the call at the front of the destination ACD group's Overflow In Queue has been a waiting. This field has a value of zero if no calls are queued.

CALL_NETWORK_ANSWERED_ACD_DN identifies the ACD-DN in the source ACD group that the ACD call came in (either Primary or Supplementary, it preserves the service identification). This is supported for nodal ACD calls only.

CALL_NETWORK_ANSWERED_ACD_DN_COUNT specifies the number of digits in the CALL_NETWORK_ANSWERED_ACD_DN. The ACD-DN can be up to ten digits.

CALL_NETWORK_ANSWERED_CALLING_NUMBER is the calling party's Directory Number. The calling number is available when operating with the E911 package on the switch otherwise it is zero.

CALL_NETWORK_ANSWERED_CALLING_NUMBER_COUNT specifies the number of digits in the CALLING_NUMBER. The CALLING_NUMBER can be up to 10 digits.

3.3.4.3.1 switchSendEvent

```
switchSendEventOPERATION
    ARGUMENT
        { AcdEvent }
    ::= 16
```

3.3.4.3.2 ACDEvent

```
ACDEvent ::= CHOICE
    ACDCallAnswered[1] IMPLICIT OCTET STRING,
        -- Bytes0-4    :  call_answered_sgrp_dn
        -- Byte5       :  call_answered_sgrp_dn_count
        -- Bytes6-10   :  call_answered_dgrp_dn
        -- Byte 11     :  call_answered_dgrp_dn_count
        -- Bytes12-13  :  call_answered_numicq_p
        -- Bytes14-15  :  call_answered_numicq_l
        -- Bytes16-17  :  call_answered_agposnid
        -- Bytes18-19  :  call_answered_loginid
        -- Bytes20-21  :  call_answered_delay
        -- Bytes22-24  :  call_answered_tod
        -- Byte 25     :  call_answered_cstatus
        -- Bytes26-27  :  current_p_call_q_wait_time
        -- Bytes28-29  :  current_l_call_q_wait_time
        -- Bytes30-34  :  call_answered_acd_dn
        -- Byte35      :  call_answered_acd_dn_count
        -- Bytes36-40  :  call_answered_calling_number
```

```
-- Byte41       :  call_answered_calling_number
-- Bytes 42-46 :  call_recall_dn
-- Byte 47      :  call_recall_dn_count
-- Bytes 48-49 :  call_recalled_acdposnid
```

3.3.4.4 ACDCallAbandoned

When a caller goes on-hook before the ACD call is answered, the ACD call is either released from the ACD group's Incoming Call Queue, or the agent position stops ringing. In both cases, an ACD Call Abandoned message is sent to the DSP. This message contains the following fields:

CALL_ABANDONED_SGRP_DN
CALL_ABANDONED_SGRP_DN_COUNT
CALL_ABANDONED_DGRP_DN
CALL_ABANDONED_DGRP_DN_COUNT
CALL_ABANDONED_ACD_DN
CALL_ABANDONED_ACD_DN_COUNT
CALL_ABANDONED_TOD
CALL_ABANDONED_CSTATUS
CALL_ABANDONED_DELAY
CALL_ABANDONED_NUMICQ_P
CALL_ABANDONED_NUMICQ_L
CURRENT_P_CALL_Q_WAIT_TIME
CURRENT_L_CALL_Q_WAIT_TIME
CALL_ABANDONED_CALLING_NUMBER
CALL_ABANDONED_CALLING_NUMBER_COUNT

CALL_ABANDONED_SGRP_DN is the Primary ACD-DN of the source group to which the call was initially presented. The source group is either (1) the same as the destination group, if the call was not deflected to the destination group or (2) different from the destination group if the call was deflected to the destination group. If addition, the source group is normally the group the call was initially presented to EXCEPT if this is a Networked ACD Time Delay Overflow Call (CALL_OFFERED_CSTATUS was 6, 7, 8, or 9 - see Section 3.3.2 on page 49). In that case, the source group is the group where the call was physically queued, which can or cannot be where the call was first presented.

CALL_ABANDONED_SGRP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the source ACD group. The ACD-DN can be up to ten digits.

CALL_ABANDONED_DGRP_DN is the Primary ACD-DN of the destination group that has accepted the call.

CALL_ABANDONED_DGRP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the destination ACD group. The ACD-DN can be up to ten digits.

CALL_ABANDONED_ACD_DN identifies the ACD-DN in the source ACD group that the ACD call came in (either Primary or Supplementary, it preserves the service identification). This is supported for nodal ACD calls only.

CALL_ABANDONED_ACD_DN_COUNT specifies the number of digits in the CALL_ABANDONED_ACD_DN. The ACD-DN can be up to ten digits.

CALL_ABANDONED_TOD is the time of day in hours, minutes, and seconds (24-hour format) when the caller abandoned the call.

CALL_ABANDONED_CSTATUS indicates the status of the abandoned call (range: 0 to 127). States 9 and 37 are invalid. The status is based on the following seven factors:

RENQED: The call was Re-enqueued.

NSRAN: The call was given Night Service Recorded Announcement.

CXR: The call was transferred into this group.

TIME OVFL: The call was time overflowed to another ACD Group.

RAN: The call was given Recorded Announcement.

BLOCKED: Attempt was made to deflect/overflow the call, but failed.

L_QUEUED: The call was logically queued at this group.

These are ordered from the least significant bit (rightmost) to the most significant bit (leftmost) as indicated by the hex bit-mask in Table 3-5:

Table 3-5 Hex Bit-mask

Status	REN-QED	NSRAN	CXR	TIME OVFL	RAN	BLO-CKED	L_QU-EUED
0 - 127	N - Y	N - Y	N - Y	N - Y	N - Y	N - Y	N - Y
Hex Bit-Mask	40	20	10	08	04	02	01

Note: N = bit value '0' and Y = bit value '1'

CALL_ABANDONED_DELAY is time in seconds (range 0 to 1800) that the caller has waited before abandoning the call. This delay is the difference between the time the call was originally offered to the source ACD group and the time the caller abandoned the call. The abandoned delay time includes one or both of the following:

— the total time the call was in the Incoming Call Queue

— the total time the call was ringing at the agent position

CALL_ABANDONED_NUMICQ_P is the total number of calls queued in the destination ACD group's physical call queue at the time the call was abandoned (range: 0 to 511).

CALL_ABANDONED_NUMICQ_L is the total number of calls queued in the destination ACD group's Overflow In Queue at the time the call was abandoned (range: 0 to 511).

CURRENT_P_CALL_Q_WAIT_TIME is the time (range: 0 to 1800 seconds) that the call at the front of the destination ACD group incoming physical call queue has been waiting. This field has a value of zero if no calls are queued.

CURRENT_L_CALL_Q_WAIT_TIME is the time (range: 0 to 1800 seconds) that the call at the front of the destination ACD group's Overflow In Queue has been waiting. This field has a value of zero if no calls are queued.

CALL_ABANDONED_CALLING_NUMBER is the calling party's Directory Number. The calling number is available when operating with the E911 package on the switch otherwise it is zero.

CALL_ABANDONED_CALLING_NUMBER_COUNT specifies the number of digits in the CALLING_NUMBER. The CALLING_NUMBER can be up to 10 digits.

3.3.4.4.1 switchSendEvent

```
switchSendEventOPERATION
    ARGUMENT
        { AcdEvent }
    ::= 16
```

3.3.4.4.2 ACDEvent

```
ACDEvent ::= CHOICE
    ACDCallAbandoned[3] IMPLICIT OCTET STRING,
        -- Bytes0-4     :  call_abandoned_sgrp_dn
        -- Byte5        :  call_abandoned_sgrp_dn_dn_co
```

```
-- Bytes6-10   : call_abandoned_dgrp_dn
-- Byte11      : call_abandoned_dgrp_dn_count
-- Bytes12-14  : call_abandoned_tod
-- Byte15      : call_abandoned_cstatus
-- Bytes16-17  : call_abandoned_delay
-- Bytes18-19  : call_abandoned_numicq_p
-- Bytes20-21  : call_abandoned_numicq_l
-- Bytes22-23  : current_p_call_q_wait_time
-- Bytes24-25  : current_l_call_q_wait_time
-- Bytes26-30  : call_abandoned_acd_dn
-- Byte31      : call_abandoned_acd_dn_count
-- Bytes32-36  : call_abandoned_calling_number
-- Byte37      : call_abandoned_calling_numbe
```

3.3.4.5 ACDCallReleased

This ACD Event message provides information on answered ACD calls that have been released by either the caller or the ACD agent. The messages contains the following fields:

CALL_RELEASED_GRP_DN
CALL_RELEASED_GRP_DN_COUNT
CALL_RELEASED_AGPOSNID
CALL_RELEASED_LOGINID
CALL_RELEASED_TOD
CALL_RELEASED_ONE_LOB_NUM_DIGITS
CALL_RELEASED_ONE_LOB
CALL_RELEASED_NRDY
CALL_RELEASED_WALKAWAY_REASON
CALL_RELEASED_ONE_LOB_TIMESTAMP
CALL_RELEASED_TWO_LOB_NUM_DIGITS
CALL_RELEASED_TWO_LOB
CALL_RELEASED_THREE_LOB_NUM_DIGITS
CALL_RELEASED_TWO_LOB_TIMESTAMP
CALL_RELEASED_THREE_LOB
CALL_RELEASED_THREE_LOB_TIMESTAMP
CALL_RELEASED_CALLING_NUMBER
CALL_RELEASED_CALLING_NUMBER_COUNT

CALL_RELEASED_GRP_DN is the Primary ACD-DN of the group that released the call.

CALL_RELEASED_GRP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

CALL_RELEASED_AGPOSNID is the position ID of the agent releasing the call (range: 1 to 9999).

CALL_RELEASED_LOGINID is the agent login ID of the agent releasing the call (range: 1 to 9999).

CALL_RELEASED_TOD is the time of day in hours, minutes, and seconds (24-hour format) when the call was released.

CALL_RELEASED_ONE_LOB_NUM_DIGS is the number of digits in the first Line of Business Code (range 0-3). A zero indicates no LOB is associated with this call.

CALL_RELEASED_ONE_LOB is a 1-3 digit LOB code associated with this call.

CALL_RELEASED_NRDY range 0-2. A value of zero indicates ACDNR key was not used to release the ACD; a value of 1 indicates that the call was released when the agent position was in the Not Ready state, a value of 2 indicates the agent did not use the ACDNR key to release the call and the agent is going into VARWRAP mode upon completion of this call.

CALL_RELEASED_WALKAWAY_REASON is the no of the digits in the walk-away code (1 nibble) followed by the 3-digit walk-away code (3 nibbles). The length of walk-away is 0 or 3 (zero indicates no walk-away code is associated with this group). This field is valid for CALL_RELEASED_NRDY value 1. There are two types of “default” walkaway codes, the first has a counter value 3(000). This signifies that an invalid walkaway code was entered by the agent, or no walkaway code was entered. The second has a counter value of 0(000). This signifies that walkaway software is not in the switch, or that the walkaway option has not been enabled for the ACD group the agent belongs to.

CALL_RELEASED_ONE_LOB_TIMESTAMP is the time, in hours, minutes, seconds (24-hour format) that the first LOB code was entered.

CALL_RELEASED_TWO_LOB_NUM_DIGS is the number of digits in the second Line of Business Code (range 0-3). A zero indicates this LOB is not valid.

CALL_RELEASED_TWO_LOB is the second 1-3 digit LOB code associated with this call.

CALL_RELEASED_TWO_LOB_TIMESTAMP is the time, in hours, minutes, seconds (24-hour format) that the second LOB code was entered.

CALL_RELEASED_THREE_LOB_NUM_DIGS is the number of digits in the third Line of Business Code (range 0-3). A zero indicates this LOB is not valid.

CALL_RELEASED_THREE_LOB is the third 1-3 digit LOB code associated with this call.

CALL_RELEASED_THREE_LOB_TIMESTAMP is the time, in hours, minutes, seconds (24-hour format) that the third LOB code was entered.

CALL_RELEASED_CALLING_NUMBER is the calling party's Directory Number. The calling number is available when operating with the E911 package on the switch otherwise it is zero.

CALL_RELEASED_CALLING_NUMBER_COUNT specifies the number of digits in the CALLING_NUMBER. The CALLING_NUMBER can be up to 10 digits.

3.3.4.5.1 switchSendEvent

switchSendEventOPERATION
    ARGUMENT
        { AcdEvent }
    ::= 16

3.3.4.5.2 ACDEvent

```
ACDEvent ::= CHOICE
    ACDCallReleased [4] IMPLICIT OCTET STRING,
        -- Bytes0-4    : call_released_group
        -- Byte5       : call_released_dn_count
        -- Bytes6-7    : call_released_agposnid
        -- Bytes8-9    : call_released_loginid
        -- Bytes10-12  : call_released_tod
        -- Bytes13     : call_released_one_lob_num_di
        -- Bytes14-16  : call_released_one_lob
        -- Byte17      : call_released_nrdy
        -- Byte18-19   : call_released_walkaway_reason
        -- Bytes20-22  : call_released_one_lob_timestamp
        -- Bytes23     : call_released_two_lob_num_di
        -- Bytes24-26  : call_released_two_lob
        -- Bytes 27    : call_released_three_lob_num_digits
        -- Bytes28-30  : call_released_two_lob_timesta
        -- Bytes31     : reserved
        -- Bytes32-34  : call_released_three_lob
        -- Bytes35     : reserved
        -- Bytes36-38  : call_released_three_lob_timestamp
        -- Byte39      : reserved
        -- Bytes40-44  : call_released_calling_number
        -- Byte45      : call_released_calling_number_
```

3.3.4.6 ACDCallBlocked

This event message provides information on calls that are blocked because of insufficient resources to service the call after having been accepted by the destination ACD group. A particular scenario where this message is used, is when an NACD call is Call Time Overflowed (logically queued) at a remote group (on another switch) and when an attempt is actually made to physically route that call to the remote group for answer, there are no trunk facilities. In this case ACDCallBlocked is sent to the remote group and the call stays at the source group. The message contains the following fields:

CALL_BLOCKED_SGRP_DN
CALL_BLOCKED_SGRP_DN_COUNT
CALL_BLOCKED_DGRP_DN
CALL_BLOCKED_DGRP_DN_COUNT
CALL_BLOCKED_TOD
CALL_BLOCKED_ACD_DN
CALL_BLOCKED_ACD_DN_COUNT
CALL_BLOCKED_CALLING_NUMBER
CALL_BLOCKED_CALLING_NUMBER_COUNT

CALL_BLOCKED_SGRP_DN is the Primary ACD-DN of the source group to which the call was initially presented. The source group is either (1) the same as the destination group, if the call was not deflected to the destination group or (2) different from the destination group if the call was deflected to the destination group. If addition, the source group is normally the group the call was initially presented to EXCEPT if this is a Networked ACD Time Delay Overflow Call (CALL_OFFERED_CSTATUS was 6, 7, 8, or 9 - see Section 3.3.2 on page 49). In that case, the source group is the group where the call was physically queued, which can or cannot be where the call was first presented.

CALL_BLOCKED_SGRP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the source ACD group. The ACD-DN can be up to ten digits.

CALL_BLOCKED_DGRP_DN is the Primary ACD-DN of the ACD group that has accepted the call (either physical or logical), but could not service it because of insufficient resources.

CALL_BLOCKED_DGRP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the destination ACD group. The ACD-DN can be up to ten digits.

CALL_BLOCKED_TOD is the time of day in hours, minutes, and seconds (24-hour format) when the call was blocked.

CALL_BLOCKED_ACD_DN identifies the ACD-DN in the source group that the ACD call came in (either Primary or Supplementary, it preserves the service identification). This field is supported for nodal ACD calls only.

CALL_BLOCKED_ACD_DN_COUNT specifies the number of digits in the CALL_BLOCKED_ACD_DN which can be up to ten digits.

CALL_BLOCKED_CALLING_NUMBER is the calling party's Directory Number. The calling number is available when operating with the E911 package on the switch otherwise it is zero.

CALL_BLOCKED_CALLING_NUMBER_COUNT specifies the number of digits in the CALLING_NUMBER. The CALLING_NUMBER can be up to 10 digits.

3.3.4.6.1 switchSendEvent

```
switchSendEventOPERATION
    ARGUMENT
        { AcdEvent }
    ::= 16
```

3.3.4.6.2 ACDEvent

```
ACDEvent ::= CHOICE
    ACDCallBlocked[5] IMPLICIT OCTET STRING,
        -- Bytes0-4    :  call_blocked_sgrp_dn
        -- Byte5       :  call_blocked_sgrp_dn_count
        -- Bytes6-10   :  call_blocked_dgrp_dn
        -- Byte11      :  call_blocked_dgrp_dn_count
        -- Bytes12-14  :  call_blocked_tod
        -- Byte 15     :  call_blocked_acd_dn_count
        -- Byte16-20   :  call_blocked_acd_dn
        -- Byte21      :  call_blocked_calling_number_c
        -- Bytes22-26  :  call_blocked_calling_number
        -- Byte27      :  reserved
```

3.3.4.7 AgentPositionEvent

This ACD Event message provides information on events that occur at the agent position, while an agent is logged on. The following agent events activate Position Event messages:

0 =agent Login
1 =agent Logout
2 =activate ACD Not Ready
3 =deactivate ACD Not Ready
4 =answer DN Call
5 =originate DN Call
6 =release DN Call

7 =activate Make Set Busy
8 =deactivate Make Set Busy
9 =activate EMERGENCY key
10 =deactivate EMERGENCY Key
11 =activate INCALLS Hold
12 =deactivate INCALLS Hold
13 =activate SDN Hold
14 =deactivate SDN Hold
15 =agent Forced Out
16 =activate CLSUP
17 =deactivate CLSUP
18 =activate EMERGENCY key hunt
19 =VARWRAP mode terminates
20 =EMK Failed, No Supervisor/Auxiliary Device Datafilled
21 =EMK Failed To Get Conference Port
22 =EMK Failed, No Supervisor/Auxiliary Device Available
23 =EMK Failed To Connect to Supervisor/Auxiliary Device
24 =AGENT_STATUS_RECOVERY_FAILED
25 =AGENT_POSITION_STATUS_LOGOUT
26 =RENQ due to ACD Not Ready
27 =RENQ due to ACDRNGTH
28 to 255 Reserved for future use

The AgentPositionEvent message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
POSITION_EVENT_AGPOSNID
POSITION_EVENT_LOGINID
POSITION_EVENT_TOD
POSITION_EVENT_EVENTTYPE
POSITION_EVENT_DN_TAG
POSITION_WALKAWAY_REASON
POSITION_WRPTIME

ACD_GROUP_DN is the Primary ACD-DN of the source group to which the agent position belongs.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

POSITION_EVENT_AGPOSNID is the position ID that is assigned to the ACD set when it is datafilled (range: 1 to 9999). A zero can occur when the agent position that the event occurred on was not assigned a position ID at the datafill time.

POSITION_EVENT_LOGINID is the agent login ID used by the agent to log into an agent position (range: 1 to 9999). The ID number is also sent when the agent logs out.

POSITION_EVENT_TOD isthetimeinhours,minutes,andseconds(24-hour format) when the event occurred.

POSITION_EVENT_EVENTTYPE can have the following values:

0 - **Agent Login**
The agent has successfully completed the login procedure.

1 - **Agent Logout**
The agent has successfully completed the logout procedure.

2 - **Activate ACD Not Ready**
The ACD NOT READY (ACDNR) key is pressed to activate the Not Ready feature in case the NRONSDN feature is not assigned to the agent. If the NRONSDN feature is assigned, then an AgentPositionEvent message is automatically sent with this event type when the agent presses the SDN with an inactive INCALLS key or when the agent presses SDN with an active INCALLS key and the ACD call on the INCALLS key is released by the caller subsequently.

If the agent was in the Not Ready state when an outbound call was initiated using DV-MAKE-CALL or activated Not Ready after the call was initiated, then an AgentPositionEvent with POSITION_EVENT_EVENTTYPE (2) Activate ACD Not Ready is sent immediately following an AgentPositionEvent with POSITION_EVENT_EVENTTYPE (6) Release DN Call when the call is released as long that the agent did not deactivate Not Ready during the call.

This message is not sent when the ACDNR key is used to release a call.

The ACDNR feature can be assigned to an agent position on an optional basis. If the ACDNR feature is not assigned it can be necessary to assign the Variable Wrap-up Time feature to provide some follow-up time after each call

3 - **Deactivate ACD Not Ready**
The ACDNR key is pressed to deactivate the Not Ready feature in case the Not Ready option is assigned to or reenabled for the agent.

If the ACD Not Ready option is not assigned or enabled for the agent, then the AgentPositionEvent message is automatically sent with this event type after successful agent login.

If an agent position was in the Not Ready state when an outbound call was initiated using DV-MAKE-CALL and the Not Ready key was de-activated during the call, this AgentPositionEvent event type will not be sent either immediately or when the call is released.

4 - **Answer DN Call**
An agent answers an incoming DN call.

5 - **Originate DN Call**
An agent accesses a secondary DN (SDN) to originate an outgoing call. This message is sent when the agent presses a SDN key, before any digits are collected or when an agent outbound call is initiated using DV-MAKE-CALL and the agent is alerted for an outbound call on the INCALLS key.

6 - **Release DN Call**
A call on an SDN key is released or an agent outbound call initiated using DV-MAKE-CALL is released.

7 - **Activate Make Set Busy**
The Make Set Busy (MSB) key is pressed to activate the Make Set Busy feature.

8 - **Deactivate Make Set Busy**
The Make Set Busy (MSB) key is pressed to deactivate the Make Set Busy feature.

9 - **Activate EMERGENCY Key**
The EMERGENCY (EMK) key is pressed to activate the emergency key feature.

10 - **Deactivate EMERGENCY Key**
The EMK is deactivated.

11 - **Activate INCALLS Hold**
HOLD is activated on a call on the INCALLS key by pressing the HOLD key or pressing the SDN while the INCALLS key is active.

12 - **Deactivate INCALLS Hold**
HOLD is deactivated on a call on the INCALLS key by pressing the INCALLS key.

13 - **Activate SDN Hold**
HOLD is activated on a call on an agent's SDN key.

14 - **Deactivate SDN Hold**
HOLD is deactivated on a call on an agent's SDN key.

15 - **Agent Forced Out**
An agent is forced out (logged out) due to not answering an incoming call or not answering an outbound call (initiated through the CompuCALL interface).

16 - **Activate CLSUP**
An agent activates the Call Supervisor (CLSUP) feature.

17 - **Deactivate CLSUP**
An agent deactivates the Call Supervisor (CLSUP) feature.

18 - **Activate EMERGENCY Key Hunt**
An agent attempts to activate the EMERGENCY (EMK) key feature, when the associated SUPR AEMK key is already busy on a call, thus the EMK call terminates on another AEMK key via the EMK Hunt feature.

19 - **VARWRAP mode terminates**
The Variable Wrap-Up mode for an agent expires.

20 - **EMK Failed, No Supervisor/Auxiliary Device Datafilled**
No supervisor/auxiliary device is datafilled.

21 - **EMK Failed To Get Conference Port**
No conference ports are available.

22 - **EMK Failed, No Supervisor/Auxiliary Device Available**
No supervisor/auxiliary device is available.

23 - **EMK Failed To Connect to Supervisor/Auxiliary Device**
Failed to connect to supervisor/auxiliary device.

Note: Event types 20 through 23 are provided for the supervisor to track failed EMK attempts through ACD-MIS. Each of these event types indicates a condition which caused the EMK attempt to fail. If the call fails after the EMK connection is set up no failure message is sent.

24 - **AGENT_STATUS_RECOVERY_FAILED**
Unsuccessful recovery of status after a cold restart.

In case of cold restart the switch will attempt to regain the agent's status. An AgentPositionEvent message with this event type is sent when recovery is not successful for a period of 5 minutes after the cold restart, only for agent positions that would have been recovered to idle status (i.e., logged in and ready to accept calls), see Table 3-6. These agents are automatically logged out by the switch. This event type

allows the supervisor to find out by using MIS if and which agent's status has not been successfully recovered to the idle status.

Table 3-6 ACD Agent Status Recovery (Cold Restarts)

AGENT STATUS BEFORE COLD START	AGENT STATUS AFTER COLD START
Agent logged out.	Same.
Agent logged in and ready to accept calls.	Same.
Agent logged in with Not Ready activated.	Same.
Agent logged in and active on an ACD or a secondary DN (SDN) call.	Agent logged in and ready to accept calls.
Agent logged in with Make Set Busy activated. The agent can be active on an ACD or an SDN call.	Agent logged out.
Agent logged in and active on an ACD or SDN call with Not Ready activated.	Agent logged in with Not Ready activated.
Agent logged in and active on an ACD call and entering walk-away digits.	Agent logged in with Not Ready activated.
Agent logged in and entering walk-away digits. The agent is not active on a call.	Agent logged in with Not Ready activated.
Agent logged in and active on an ACD or SDN call after all walk-away digits have been entered (i.e., Non-immediate cut-off feature).	Agent logged in with Not Ready activated.

Note 1: An unsuccessful recovery to a Not Ready status can only be caused by a failure which would prevent to recover all agent positions' statuses. In this case no AgentPositionEvent message with POSITION_EVENT_ EVENTTYPE (24), AGENT_STATUS_ RECOVERY_FAILED, will be sent including for agent positions that cannot be recovered to an idle status after a cold restart.

Note 2: There is no automatic recovery of agent positions in case of reload restart. In this case the ACD positions are automatically logged out.

25 - **AGENT_POSITION_STATUS_LOGOUT**
This AgentPosition event type is sent if the agent position is discovered to be in a “bad” state by the switch when attempting to deliver an ACD call to the agent. The agent position is automatically logged out by the

switch and the ACD call is re-enqueued in front of the queue of the ACD group which the agent belongs to. An agent position is considered to be in a “bad” state when it is logged in with Not Ready deactivated but not able to receive a call because of a fault condition in the switch e.g., when a DMS-100 remote peripheral has been cut off. If all agents in an ACD group have been detected to be in a “bad” state, all incoming calls or overflow calls to this group are routed to an overflow route if it exists and is available, otherwise they are routed to the threshold route.

This event type allows the supervisor to find out by using MIS if and which agent's are automatically logged out.due to their being unable to process calls.

26 - **RENQ due to ACD Not Ready**
The ACD NOT READY (ACDNR) feature has been activated while a call is being presented to an ACD agent. There are not any other idle agent positions in the ACD group so the call is re-enqueued.

27 - **RENQ due to ACDRNGTH**
The ACD Ring Threshold timer (ACDRNGTH) has expired and there are not any other idle agents in this ACD group so the call is re-enqueued.

28 to 255 are reserved for future use

POSITION_EVENT_DN_TAG a - in case of a MBS set:this tag is the key number (range 1 - 64) on the agent set on which the DN event occurred This tag field is zero for all POSITION_EVENT_EVENTTYPE types except (4) Answer DN Call, (5) Originate DN Call, (6) Release DN Call, (13) Activate SDN Hold or (14) Deactivate SDN Hold. In case of an agent outbound call using the CompuCALL DV-MAKE-CALL message by a device (e.g., computer host) connected to the switch, the DN tag field for both (5) Originate DN Call and (6) Release DN Call is 1.

b - in case of 500 or 2500 set, this tag is always zero.

POSITION_WALKAWAY_REASON is the number of digits in the walk-away code (1 nibble), followed by the 3 digit walk-away code (3 nibbles). The length of the walk-away code is 0 or 3 (zero indicates no walk-away code is associated with this group).

This field is valid for event types 2 (Activate ACD Not Ready) and 0 (Agent Login). In case of event type 2 (Activate ACD Not Ready), there are two types of “default” walkaway codes, the first has a counter value 3(000). This signifies that an invalid walkaway code was entered by the agent, or no walkaway code was entered (e.g., in case the agent makes use

of the NRONSDN feature). The second has a counter value of 0(000). This signifies that walkaway software is not in the switch, or that the walkaway option has not been enabled for the ACD group the agent belongs to. In case of event type 0 (Agent Login), if the walkaway feature is assigned to the group then the walkaway code is 3(000) and if the walkaway software is not in the switch, or the walkaway option has not been enabled for the ACD group the agent belongs to, then the walkaway code is 0(000).

Note: POSITION_WALKAWAY_REASON will always be 0(000) when the event type is AGENT_STATUS_RECOVERY_FAILED or AGENT_POSITION_STATUS_LOGOUT.

POSITION_WRPTIME is the value of the Variable Wrap-up Time associated with this agent login id (range: 0 - 900 seconds). Zero indicates there is no variable wrap-up time assigned to this login id. This field is only valid for the Agent Login Event message.

3.3.4.7.1 switchSendEvent

switchSendEventOPERATION
    ARGUMENT
        { AcdEvent }
    ::= 16

3.3.4.7.2 ACDEvent

ACDEvent ::= CHOICE
    AgentPositionEvent [6] IMPLICIT OCTET STRING,
        -- Bytes0-4 : acd_group_dn
        -- Byte5 : acd_group_dn_count
        -- Bytes6-7 : position_event_agposnid
        -- Bytes8-9 : position_event_loginid
        -- Bytes10-12 : position_event_tod
        -- Byte13 : position_event_eventtype
        -- Byte14 : position_event_dn_tag
        -- Byte15 : reserved
        -- Byte16-17 : position_walkway_reason
        -- Byte18-19 : position_wrptime

3.3.4.8 ACDCallTransferred

This ACD Event message is generated at the originating group when an attempt is made to transfer the call out of the originating group, and at the destination group when a call is transferred into the destination group (only for calls transferred to the agent's SDN, otherwise an ACDCallOffered event message is generated for this group with the appropriate CALL_TRANSFER_STATUS value - see Section 3.3.4.1 on page 91. Also note that Call Transfer over a trunk will not produce a transfer message.). This message contains the following fields:

CALL_TRANSFER_SRC_DN
CALL_TRANSFER_SRC_DN_COUNT
CALL_TRANSFER_DST_DN
CALL_TRANSFER_DST_DN_COUNT
CALL_TRANSFER_SRC_AGTPOSNID
CALL_TRANSFER_DST_AGTPOSNID
CALL_TRANSFER_TOD
CALL_TRANSFER_STATUS
CALL_TRANSFER_DN_TAG
CALL_TRANSFER_DIFF_CUST_GROUP
CALL_TRANSFER_CALLING_NUMBER
CALL_TRANSFER_CALLING_NUMBER_COUNT

CALL_TRANSFER_SRC_DN is the Primary ACD-DN of the ACD group of the agent that is transferring the call. If this is a transfer from outside of ACD, this is the Directory Number (on this switch) that is transferring the call.

CALL_TRANSFER_SRC_DN_COUNT specifies the number of digits in the CALL_TRANSFER_SRC_DN. The DN can be up to 10 digits.

CALL_TRANSFER_DST_DN is the Primary ACD-DN of the destination ACD group that is receiving the transferred call. If this is a transfer to outside of ACD, this is the Directory Number (on this switch) that is receiving this transferred call.

CALL_TRANSFER_DST_DN_COUNT specifies the number of digits in the CALL_TRANSFER_DST_DN. The DN can be up to 10 digits.

CALL_TRANSFER_SRC_AGPOSNID is the position identification (0-9999) of the agent that is transferring the call. A zero indicates that the transferring agent was not assigned a position id at datafill time. If this is a call transferred from outside of ACD, this field is not used.

CALL_TRANSFER_DST_AGPOSNID is the position identification (0-9999) of the agent that is receiving the transferred call. A zero indicates that the transferred to agent was not assigned a position id at datafill time. If this is a call transferred to outside of ACD, this field is not used.

CALL_TRANSFER_TOD is the time of day, in hours, minutes, seconds (24-hour format) that the call is transferred.

CALL_TRANSFER_STATUS indicates specifically the type of CALL TRANSFER for this message:

0 = Transfer out from Agent to Agent
1 = Transfer out from Agent to Group

2 = Transfer out from Agent to SDN
3 = Transfer out from Agent to non-ACD
4 = Transfer out from SDN to Group
5 = Transfer out from SDN to SDN
6 = Transfer out from SDN to non-ACD
7 = Transfer in to SDN from Agent
8 = Transfer in to SDN from SDN
9 = Transfer in to SDN from non-ACD

In case of agent to agent transfer, the call will be queued in the PAQ/CTQ if the following conditions are satisfied:

1.The call does not cause PAQ to exceed the PAQ size datafilled for the agent.

2.The call does not cause the CTQ to exceed the CTQ size datafilled for the ACD group.

3.The call does not cause the ACD incoming queue to exceed the MAXCQSIZ (MAX Call Queue SIZe) datafilled for the ACD group.

If any of these conditions are violated then the attempted transfer will receive treatment, with one exception. If the CTQ has reached its CTQ size but the agent that the call is being transferred to is idle (i.e., both PAQ and ACD incoming queue are empty) the call will still be presented to the agent.

Note: The information on PAQ size is accessible by the ACD Administrator at the switch through ACDSHOW.

CALL_TRANSFER_DN_TAG is the key number on the agent set that is associated with the call that is being transferred. If this is an SDN TRANSFER OUT, it is the key number of the SDN where the transfer originated. If this is a SDN TRANSFER IN, it is the key number of the SDN where the transfer terminated. Otherwise this field is not used.

CALL_TRANSFER_DIFF_CUST_GROUP indicates if this call is being transferred across customer groups (value = 1) or within the same customer group (value = 0).

CALL_TRANSFER_CALLING_NUMBER is the calling party's Directory Number. The calling number is available when operating with the E911 package on the switch otherwise it is zero.

CALL_TRANSFER_CALLING_NUMBER_COUNT specifies the number of digits in the CALLING_NUMBER. The CALLING_NUMBER can be up to 10 digits.

3.3.4.8.1 switchSendEvent

switchSendEventOPERATION
    ARGUMENT
        { AcdEvent }
    ::= 16

3.3.4.8.2 ACDEvent

ACDEvent ::= CHOICE
    ACDCallTransferred [7] IMPLICIT OCTET STRING,
        -- Bytes0-4 : call_transfer_src_dn
        -- Byte5 : call_transfer_src_dn_count
        -- Bytes6-10 : call_transfer_dst_dn
        -- Byte11 : call_transfer_dst_dn_count
        -- Bytes12-13 : call_transfer_src_agposnid
        -- Bytes14-15 : call_transfer_dst_agposnid
        -- Bytes16-18 : call_transferred_tod
        -- Byte19 : call_transfer_status
        -- Byte20 : call_transfer_dn_tag
        -- Byte21 : call_transfer_diff_cust_group
        -- Bytes22-26 : call_transfer_calling_number
        -- Byte27 : call_transfer_calling_number_count

3.3.4.9 ACDCallParked

This ACD Event message is sent to the DSP by the switch when an ACD agent successfully parks an ACD call. The intent of this message is to allow the DSP to track the call park activities. This message contains the following fields:

CALL_PARKED_OGRP
CALL_PARKED_OGRP_DN_COUNT
CALL_PARKED_SGRP
CALL_PARKED_SGRP_DN_COUNT
CALL_PARKED_DN
CALL_PARKED_DN_COUNT
CALL_PARKED_SRC_AGPOSNID
CALL_PARKED_TOD

CALL_PARKED_OGRP This is the directory number of the original ACD group. The original ACD group number identifies the initial ACD group within the switch that the ACD call was presented to. The original ACD group number could either be:

— Different from the source ACD group if the call is routed or transferred to an agent in another ACD group who parks the call or

— The same group as the source ACD group if the call is parked by an agent within the same group.

CALL_PARKED_OGRP_DN_COUNT This is the number of digits in the original group ACD DN.

CALL_PARKED_SGRP This is the directory number of the source ACD group. The Source ACD group number identifies the ACD group within the switch that the ACD call was parked from. The Source ACD group number could either be:

— Different from the original ACD group if the call is routed or transferred to an agent in another ACD group who parks the call or

— The same group as the original ACD group if the call is parked by an agent within the same group.

CALL_PARKED_SGRP_DN_COUNT This is the number of digits in the source group ACD DN.

CALL_PARKED_DN This is the directory number the ACD call is parked against.

CALL_PARKED_DN_COUNT This is the number of digits in the DN the call is parked against.

CALL_PARKED_SRC_AGPOSNID This identifies the agent position ID this ACD call is parked from (range: 1 to 9999). The agent position ID is assigned when the ACD set is datafilled in the Switch. The agent position ID number is unique for each ACD agent positions in a switch.The ID default number is zero if an agent position is not assigned a position ID. Therefore the agent position ID number must be non-zero for this field to be meaningful.

CALL_PARKED_TOD This is used to indicate the time in hours, minutes and seconds (24-hour format) that this call was parked by the agent of the Source ACD group.

3.3.4.9.1 switchSendEvent

```
switchSendEventOPERATION
    ARGUMENT
        { AcdEvent }
    ::= 16
```

3.3.4.9.2 ACDEvent

```
ACDEvent ::= CHOICE
ACDCallParked [8] IMPLICIT OCTET STRING}
    --Bytes0-4        :  call_parked_ogrp
    --Byte5           :  call_parked_ogrp_dn_count
    --Bytes6-10       :  call_parked_sgrp
    --Byte11          :  call_parked_sgrp_dn_count
```

--Bytes6-10 : call_parked_dn
--Byte11 : call_parked_dn_count
--Bytes12-13 : call_parked_src_agposnid
--Bytes14-16 : call_parked_tod
--Byte17 : reserved

3.3.5 Load Management Event Messages (Operation Value “11” Hex)

Load Management event messages are sent from the Switch to the DSP when major ACD configuration parameters are changed either automatically by the network or manually from the MAP position on DMS-100/SL-100.

The following messages are included:

1 AgentPosReassigned - Section 3.3.5.1 on page 124.

2 ACDDNReassigned - Section 3.3.5.2 on page 125.

3 PrioProChanged - Section 3.3.5.3 on page 127.

4 MaxWaitChanged - Section 3.3.5.4 on page 127.

5 TmDelOvflChanged - Section 3.3.5.5 on page 128.

6 OvflTypeChanged - Section 3.3.5.6 on page 129.

7 ServiceChanged - Section 3.3.5.7 on page 130.

8 MaxCqSizeChanged - Section 3.3.5.8 on page 130.

9 MaxVqSizeChanged - Section 3.3.5.9 on page 131.

10 ACDDNPrioChanged - Section 3.3.5.10 on page 132.

11 AudioGroupChanged - Section 3.3.5.11 on page 133.

12 RANTHChanged - Section 3.3.5.12 on page 134.

13 RIChanged - Section 3.3.5.13 on page 134.

14 ThRouteChanged - Section 3.3.5.14 on page 136.

15 NsRouteChanged - Section 3.3.5.15 on page 136.

16 ACDDNNameChanged - Section 3.3.5.16 on page 137.

17 ACDDNDispDigsChanged - Section 3.3.5.17 on page 138.

18 MSQSThresholdChanged - Section 3.3.5.18 on page 139.

19 EhOvflChanged - Section 3.3.5.19 on page 140.

20 CIFRouteChanged - Section 3.3.5.20 on page 142.

21 NSAUDIOGroupChanged - Section 3.3.5.21 on page 143.

22 CTQSIZEChanged - Section 3.3.5.22 on page 144.

23 DefLOBChanged - Section 3.3.5.23 on page 144.

24 WRPTIMEChanged - Section 3.3.5.24 on page 145.

25 MSQSTYPEChanged - Section 3.3.5.25 on page 146.

26 TMDTHRTEChanged - Section 3.3.5.26 on page 147.

27 TMDTHTIMEChanged - Section 3.3.5.27 on page 148.

28 FIAUDIOGroupChanged - Section 3.3.5.28 on page 148.

29 FOAUDIOGroupChanged - Section 3.3.5.29 on page 149.

30 ORGANNChanged - Section 3.3.5.30 on page 150.

31 ACTIVATEChanged - Section 3.3.5.31 on page 150.

32 RENQTOUTChanged - Section 3.3.5.32 on page 151.

33 RENRTEChanged - Section 3.3.5.33 on page 152.

34 RENQUADChanged - Section 3.3.5.34 on page 153.

3.3.5.1 AgentPosReassigned

This Load Management Event message provides information on the new supervisor, new ACD group, or both, to which the agent is now assigned. The message contains the following fields:

NEW_ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_SUPERVISOR_ID
AGENT_POS_ID
POSITION_LOGIN_ID

NEW_ACD_GROUP_DN is the Primary ACD-DN of the ACD group to which the agent position is now assigned.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_SUPERVISOR_ID is the position ID of the supervisor to which the agent is now assigned (range: 1 to 9999). A value of zero means that the agent position is not associated with a supervisor position.

AGENT_POS_ID is the position ID of the agent being reassigned (range: 1 to 9999).

POSITION_LOGIN_ID is the agent login ID used by the agent to login at the agent position being reassigned (range: 1 to 9999). The ID is zero when an agent is not logged into the agent position.

3.3.5.1.1 switchSendLoadMgmtEvent

```
switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17
```

3.3.5.1.2 LoadMgmtEvent

```
LoadMgmtEvent ::= CHOICE
    AgentPosReassigned [0]  IMPLICIT OCTET STRING,
        -- Bytes0-4     :  new_acd_group_dn
        -- Byte5        :  new_acd_group_dn_count
        -- Bytes6-7     :  new_supervisor_id
        -- Bytes8-9     :  agent_pos_id
        -- Bytes10-11   :  position_loginid
```

3.3.5.2 ACDDNReassigned

This Load Management Event message is generated when the Reassign command is used to change the ACD group of a Supplementary ACD-DN. It provides information on the source ACD group and destination ACD group.

Since the Primary DN of the ACD group is used as the identifier for the group in this protocol, changes to the Primary DN will NOT be supported.

The message contains the following fields:

SRC_ACD_GROUP_DN
SRC_ACD_GROUP_DN_COUNT
DEST_ACD_GROUP_DN
DEST_ACD_DN_GROUP_DN_COUNT
SRC_REASSIGNED_ACD_DN
SRC_REASSIGNED_ACD_DN_COUNT
PRIMARY_IN_NEW_GROUP
PRIORITY_ONE
PRIORITY_TWO

SRC_ACD_GROUP_DN is the Primary ACD-DN of the group that possess the ACD-DN which is being reassigned.

SRC_ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

DEST_ACD_GROUP_DN is the Primary ACD-DN of the destination group that received the reassigned ACD-DN.

DEST_ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the destination ACD group. The ACD-DN can be up to ten digits.

SRC_REASSIGEND_ACD_DN is the ACD-DN that is reassigned in the source group (Supplementary DN only - refer to PRIMARY_IN_NEW_GROUP).

ACD_REASSIGNED_ACD_DN_COUNT specifies the number of digits in the ACD-DN being reassigned. The ACD-DN can be up to ten digits.

PRIMARY_IN_NEW_GROUP has a value of 0 or 1. A value of zero indicates that the reassigned ACD-DN is a Primary DN in the new group. A value of one indicates that the ACD-DN is a supplementary ACD-DN. Currently only a value of 1 is supported because only Supplementary DN's can be targets of reassignments.

PRIORITY_ONE ranges from 0 to 3. If PRIMARY_IN_NEW_GROUP has a value of zero, this field contains the TRUNK priority that the ACD-DN is assigned to DEST_ACD_GROUP_DN when it is reassigned as a Primary ACD-DN. If PRIMARY_IN_NEW_GROUP has a value of 1, this field contains the priority that the ACD-DN is assigned to the DEST_ACD_GROUP_DN when it is reassigned as a Supplementary DN.

PRIORITY_TWO ranges from 0 to 3. If PRIMARY_IN_NEW_GROUP has a value of zero, this field contains the LINE priority that the ACD-DN will be assigned to the DEST_ACD_GROUP_DN when it is reassigned as a Primary ACD-DN. If it has a value of 1, this field is not used.

3.3.5.2.1 switchSendLoadMgmtEvent

```
switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17
```

3.3.5.2.2 LoadMgmtEvent

```
LoadMgmtEvent ::= CHOICE
    ACDDNReassigned [1]  IMPLICIT OCTET STRING,
        -- Bytes0-4     :  src_acd_group_dn
        -- Byte5        :  src_acd_group_dn_count
        -- Bytes 6-10   :  dest_acd_group_dn
        -- Byte11       :  dest_acd_group_dn_count
        -- Bytes12-16   :  src_reassigned_acd_dn
        -- Byte17       :  src_reassigned_acd_dn_count
        -- Byte18       :  primary_in_new_group
        -- Byte19       :  priority_one
        -- Byte20       :  priority_two
        -- Byte21       :  reserved
```

3.3.5.3 PrioProChanged

This Load Management Event message provides information on the ACD group and the new priority promotion value. The message is sent when the PRIOPRO of an ACD group is changed. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_PRIOPRO

ACD_GROUP_DN is the Primary ACD-DN group whose PRIOPRO value is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_PRIOPRO is the new priority promotion time in seconds of the ACD group (range: 0 to 255). Priority promotion provides the capability for a low priority call to be promoted to a higher priority for better service (answer time). A value of zero indicates priority promotion is disabled.

3.3.5.3.1 switchSendLoadMgmtEvent

```
switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17
```

3.3.5.3.2 LoadMgmtEvent

```
LoadMgmtEvent ::= CHOICE
    PrioProChanged [14] IMPLICIT OCTET STRING,
        -- Bytes0-4     :  acd_group_dn
        -- Byte5        :  acd_group_dn_count
        -- Byte6        :  new_priopro
        -- Byte7        :  reserved
```

3.3.5.4 MaxWaitChanged

This Load Management Event message provides information on the ACD group and the new MaxWait value. It is sent when the maximum wait time of an ACD group is changed. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_MAXWAIT

ACD_GROUP_DN is the Primary ACD-DN of the group whose MAXWAIT value is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_MAXWAIT is the new maximum time in seconds that a call should have to wait in the Incoming Call Queue before being presented to an agent position to be answered (range: 0 to 1800).

3.3.5.4.1 switchSendLoadMgmtEvent

switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17

3.3.5.4.2 LoadMgmtEvent

LoadMgmtEvent ::= CHOICE
    MaxWaitChanged [2] IMPLICIT OCTET STRING,
        -- Bytes0-4 : acd_group_dn
        -- Byte5 : acd_group_dn_count
        -- Bytes6-7 : new_maxwait

3.3.5.5 TmDelOvflChanged

This Load Management Event message provides information on the ACD group and the new Time Delay Overflow Threshold value. It is sent when the TmDelOvfl of an ACD group is changed. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_TMDELOVFL

ACD_GROUP_DN is the Primary ACD-DN of the group whose TMDELOFL value is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_TMDELOVFL is the maximum amount of time in seconds a call can be delayed in the Incoming Call Queue before being offered to another group (range: 0 to 1800).

3.3.5.5.1 switchSendLoadMgmtEvent

switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17

3.3.5.5.2 LoadMgmtEvent

```
LoadMgmtEvent ::= CHOICE
    TmDelOvflChanged [15] IMPLICIT OCTET STRING,
        -- Bytes0-4     :  acd_group_dn
        -- Byte5        :  acd_group_dn_count
        -- Bytes6-7     :  new_tmdelofl
```

3.3.5.6 OvflTypeChanged

This Load Management Event message provides information on the ACD group and the new OVFLTYPE value. It is sent when the OVFLTYPE of an ACD group is changed. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_OVFLTYPE
NEW_START

ACD_GROUP_DN is the Primary ACD-DN of the group whose OFVLTYPE value is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_OVFLTYPE is the new OVFLTYPE value, (range: 0 to 1):
0 = ALLPRIO, calls of all priority are overflowed.
1 = PRI0ONLY, only calls of priority 0 are overflowed.

NEW_START is the new START value, (range: 0 to 1) according to the following:

0 = P0ONLY, the overflow timer starts when the call reaches priority 0.

1 = IMMEDIATE, the overflow timer starts immediately when the call is queued.

3.3.5.6.1 switchSendLoadMgmtEvent

```
switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17
```

3.3.5.6.2 LoadMgmtEvent

```
LoadMgmtEvent ::= CHOICE
    OvflTypeChanged [16] IMPLICIT OCTET STRING,
        -- Bytes0-4     :  acd_group_dn
        -- Byte5        :  acd_group_dn_count
```

```
-- Byte6        :  new_ofltype
-- Byte7        :  new_start
```

3.3.5.7 ServiceChanged

This Load Management Event message provides information on the ACD group and the new SERVICE value which controls the order of serving the call queues. They are sent when the SERVICE of an ACD group is changed. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_SERVICE

ACD_GROUP_DN is the Primary ACD-DN of the group whose SERVICE value is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_SERVICE is the new SERVICE value, (range: 0 to 2) according to the following:

0 = OVFLIN - cause the outflow calls to be serviced first, followed by the incoming overflowed calls, and then the call queues within priority.

1 = P0FIRST - causes the outflow calls to be serviced first, followed by the call queue and then the inflow queue within priority.

2 = OLDEST - compares the physical and the logical queues and answers the older call.

3.3.5.7.1 switchSendLoadMgmtEvent

```
switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17
```

3.3.5.7.2 LoadMgmtEvent

```
LoadMgmtEvent ::= CHOICE
    ServiceChanged [17] IMPLICIT OCTET STRING,
                -- Bytes0-4        :  acd_group_dn
                -- Byte 5          :  acd_group_dn_count
                -- Byte 6          :  new_service
                -- Byte 7          :  reserved
```

3.3.5.8 MaxCqSizeChanged

This Load Management Event message provides information on the ACD group and the new Maximum Call Queue Size value. It is sent when the

MaxCqSize of an ACD group is changed. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_MAXCQSIZE

ACD_GROUP_DN is the Primary ACD-DN of the group whose MAXCQSIZE value is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_MAXCQSIZE is the new maximum number of calls that can be queued in the Incoming Call Queue at any one point in time (range: 0 to 511).

3.3.5.8.1 switchSendLoadMgmtEvent

switchSendLoadMgmtEventOPERATION
ARGUMENT
{ LoadMgmtEvent }
::= 17

3.3.5.8.2 LoadMgmtEvent

LoadMgmtEvent ::= CHOICE
MaxCqSizeChanged [3] IMPLICIT OCTET STRING,
-- Bytes0-4 : acd_group_dn
-- Byte 5 : acd_group_dn_count
-- Bytes6-7 : new_maxcqsize

3.3.5.9 MaxVqSizeChanged

This Load Management Event message provides information on the ACD group and the new Maximum Logical Queue Size value. It is sent when the MaxVqSize of an ACD group is changed. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_MAXVQSIZE

ACD_GROUP_DN is the ACD-DN group whose MAXVQSIZE value is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_MAXVQSIZE is the new maximum number of logical calls that can be queued in the Overflow Out Queue (range: 0 to 511).

3.3.5.9.1 switchSendLoadMgmtEvent

switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17

3.3.5.9.2 LoadMgmtEvent

LoadMgmtEvent ::= CHOICE
    MaxVqSizeChanged [18] IMPLICIT OCTET STRING,
        -- Bytes0-4 : acd_group_dn
        -- Bytes5 : acd_group_dn_count
        -- Bytes6-7 : new_maxvqsize

3.3.5.10 ACDDNPrioChanged

This Load Management Event message provides information on the new priorities associated with a Primary or Supplementary ACD-DN of an ACD Group. It is generated when the priority of an ACD-DN is changed. The messages contain the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
CHANGED_ACD_DN
CHANGED_ACD_DN_COUNT
PRIMARY_OR_SUPP
PRIORITY_ONE
PRIORITY_TWO

ACD_GROUP_DN is the Primary ACD-DN of the ACD group in which one of its ACD-DN priority is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

CHANGED_ACD_DN the ACD-DN whose priority is being changed.

CHANGED_ACD_DN_COUNT specifies the number of digits in the changed ACD-DN. The ACD-DN can be up to ten digits.

PRIMARY_OR_SUPP can either be a 0 or 1. If the ACD-DN is a Primary ACD-DN, this field has a value of zero. If the ACD-DN is a Supplementary ACD-DN, this field has a value of 1.

PRIORITY_ONE can range from 0 to 3. If PRIMARY_OR_SUPP has a value of zero, this field contains the TRUNK priority that the ACD-DN has

been assigned. If it has a value of 1, it contains the priority of the Supplementary ACD-DN.

PRIORITY_TWO can range from 0 to 3. If PRIMARY_OR_SUPP has a value of 0, this field contains the LINE priority that the ACD-DN has been assigned. If PRIMARY_OR_SUPP has a value of 1, it is not to be used.

3.3.5.10.1 switchSendLoadMgmtEvent

```
switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17
```

3.3.5.10.2 LoadMgmtEvent

```
LoadMgmtEvent ::= CHOICE
    ACDDNPrioChanged [7] IMPLICIT OCTET STRING,
                -- Bytes0-4          : acd_group_dn
                -- Byte 5            : acd_group_dn_count
                -- Bytes6-10         : changed_acd_dn
                -- Byte 11           : changed_acd_dn_count
                -- Byte 12           : primary_or_supp
                -- Byte 13           : priority_one
                -- Byte 14           : priority_two
                -- Byte 15           : reserved
```

3.3.5.11 AudioGroupChanged

This Load Management Event message provides information on the new Audio Group that is to be used by the ACD group. It is sent when the Audio_Group for an ACD Group is changed. The messages contain the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_AUDIO_GROUP

ACD_GROUP_DN is the Primary ACD-DN of the group whose audio group is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_AUDIO_GROUP specifies the new Audio Group to be used by the ACD group (range: 1 to 512).

3.3.5.11.1 switchSendLoadMgmtEvent

```
switchSendLoadMgmtEventOPERATION
    ARGUMENT
```

{LoadMgmtEvent}
:= 17

3.3.5.11.2 LoadMgmtEvent

LoadMgmtEvent ::= CHOICE
AudioGroupChanged [8] IMPLICIT OCTET STRING,
-- Bytes0-4 : acd_group_dn
-- Byte 5 : acd_group_dn_count
-- Bytes6-7 : new_audio_group

3.3.5.12 RANTHChanged

This Load Management Event message provides information on the new Recorded Announcement Threshold time that is to be used by the ACD group. They are sent when the RANTH value of an ACD group is changed. The messages contain the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_RANTH

ACD_GROUP_DN is the Primary ACD-DN of the group whose RANTH value is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_RANTH is the new recorded announcement threshold time in seconds (range: 0 or 6 to 60) to be used by the group. A zero indicates that the callers should receive the announcement immediately.

3.3.5.12.1 switchSendLoadMgmtEvent

switchSendLoadMgmtEventOPERATION
ARGUMENT
{ LoadMgmtEvent }
::= 17

3.3.5.12.2 LoadMgmtEvent

LoadMgmtEvent ::= CHOICE
RanthChanged [9] IMPLICIT OCTET STRING,
-- Bytes0-4 : acd_group_dn
-- Byte 5 : acd_group_dn_count
-- Byte 6 : new_ranth
-- Byte 7 : reserved

3.3.5.13 RIChanged

This Load Management Event message provides information on the Resource Index (RI) that is currently in use by the ACD group. When both the source

and the destination ACD nodes support RI, the NEW_ACD_RI is the new RI values of the ACD groups broadcast on the network. Otherwise, when the destination ACD node does not support RI then the New_ACD_RI is the RI manually changed through the DMS-100/SL-100 MAP position. In either cases, this event message is sent when the RI value of an ACD group is changed. The message contains the following fields:

SRC_ACD_GROUP_DN
SRC_ACD_GROUP_DN_COUNT
DEST_ACD_GROUP_DN
DEST_ACD_GROUP_DN_COUNT
NEW_ACD_RI

SRC_ACD_GROUP_DN is the Primary ACD-DN group whose table is being changed.

SRC_ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the source ACD group. The ACD-DN can be up to ten digits.

DEST_ACD_GROUP_DN is the Primary ACD-DN of the destination group whose RI is being changed.

DEST_ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the destination ACD group. The ACD-DN can be up to ten digits.

NEW_ACD_RI is the new Resource Index for the destination ACD group (range: 0 to 65535). This value is calculated on a per group basis and reflects the ACD group's ability to answer ACD calls.

3.3.5.13.1 switchSendLoadMgmtEvent

```
switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17
```

3.3.5.13.2 LoadMgmtEvent

```
LoadMgmtEvent ::= CHOICE
    RIChanged [23] IMPLICIT OCTET STRING,
                -- Bytes0-4          :  src_acd_group_dn
                -- Byte 5            :  src_acd_group_dn_count
                -- Bytes6-10         :  dest_acd_group_dn
                -- Byte 11           :  dest_acd_group_dn_count
                -- Bytes12-13        :  new_acd_ri
```

3.3.5.14 ThRouteChanged

This Load Management Event message provides information on the new Threshold Route for an ACD group. It is sent when the THROUTE for an ACD group is changed. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_THROUTE_INDEX
NEW_THROUTE_TABLE

ACD_GROUP_DN is the Primary ACD-DN of the group whose threshold route is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_THROUTE_INDEX specifies the route list entry in the given routing table (range: 0 to 1023).

NEW_THROUTE_TABLE specifies the routing table that is used for the new threshold route of the ACD group (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

3.3.5.14.1 switchSendLoadMgmtEvent

```
switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17
```

3.3.5.14.2 LoadMgmtEvent

```
LoadMgmtEvent ::= CHOICE
    ThRouteChanged [4] IMPLICIT OCTET STRING,
                -- Bytes0-4          :  acd_group_dn
                -- Byte 5            :  acd_group_dn_count

                -- Bytes6-7          :  new_throute_index
                -- Byte 8            :  new_throute_table

                -- Byte 9            :  reserved
```

3.3.5.15 NsRouteChanged

This Load Management Event message provides information on the new Night Service Route for an ACD group. It is sent when the NsRoute for an ACD group is changed. The message contain the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT

NEW_NSROUTE_INDEX
NEW_NSROUTE_TABLE

ACD_GROUP_DN is the Primary ACD-DN of the group whose Night Service Route is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_NSROUTE_INDEX specifies the route list entry in the given routing table (range: 0 to 1023).

NEW_NSROUTE_TABLE specifies the routing table that is used for the new Night Service Route of the ACD group (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

3.3.5.15.1 switchSendLoadMgmtEvent

switchSendLoadMgmtEventOPERATION
ARGUMENT
{ LoadMgmtEvent }
::= 17

3.3.5.15.2 LoadMgmtEvent

LoadMgmtEvent ::= CHOICE
NsRouteChanged [5] IMPLICIT OCTET STRING,

-- Byte 0-4 : acd_group_dn

-- Byte 5 : acd_group_dn_count

-- Bytes6-7 : new_nsroute_index

-- Bytes8 : new_nsroute_table

-- Byte 9 : reserved

3.3.5.16 ACDDNNameChanged

This Load Management Event message provides information on the new name assigned to an ACD-DN group. It is sent when the Name assigned to an ACD-DN is changed. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
CHANGED_ACD_DN
CHANGED_ACD_DN_COUNT
NEW_ACD_DN_NAME

ACD_GROUP_DN is the Primary ACD-DN of the group whose name is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

CHANGED_ACD_DN is the DN within the ACD group to which the new name is being assigned.

CHANGED_ACD_DN_COUNT specifies the number of digits in the CHANGED_ACD_DN. There can be up to 10 digits.

NEW_ACD_DN_NAME is a 15 character string identifying the new ACD name associated with the ACD-DN. In cases where there is less than 15 characters, the rest of the field is padded with blanks.

3.3.5.16.1 switchSendLoadMgmtEvent

```
switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17
```

3.3.5.16.2 LoadMgmtEvent

```
LoadMgmtEvent ::= CHOICE
    ACDDNNameChanged [11] IMPLICIT OCTET STRING,
                -- Bytes0-4          : acd_group_dn
                -- Byte 5            : acd_group_dn_count
                -- Bytes6-10         : changed_acd_dn
                -- Byte 11           : changed_acd_dn_count
                -- Bytes12-26        : new_acd_dn_name
                -- Byte 27           : reserved
```

3.3.5.17 ACDDispDigsChanged

This Load Management Event message provides information on the number of digits that is displayed for the ACD group called name/number display. It is sent when the DispDigs option of an ACD group is changed. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_ACD_DISPDIGS

ACD_GROUP_DN is the Primary ACD-DN of the group whose Display Digits is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_ACD_DISPDIGS is the new display digits value for the ACD Called Name/Number Display option (range: 0-10).

3.3.5.17.1 switchSendLoadMgmtEvent

switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17

3.3.5.17.2 LoadMgmtEvent

LoadMgmtEvent ::= CHOICE
    ACDDispDigsChanged [12] IMPLICIT OCTET STRING,
        -- Bytes0-4 : acd_group_dn
        -- Byte 5 : acd_group_dn_count
        -- Byte 6 : new_acd_dispdigs
        -- Byte 7 : reserved

3.3.5.18 MSQSThresholdChanged

This Load Management Event message provides information on the Multi-Stage Queue Status for an ACD group. It is sent when the MSQSTHRESHOLD of an ACD group is changed. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
MSQS_T1
MSQS_T2
MSQS_T3

ACD_GROUP_DN is the Primary ACD-DN group whose MSQSTHRESHOLD is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

MSQS_T1 specifies the 1st threshold of the MSQS option to be associated with the ACD group.

MSQS_T2 specifies the 2nd threshold of the MSQS option to be associated with the ACD group.

MSQS_T3 specifies the 3rd threshold of the MSQS option to be associated with the ACD group.

Table 3-7 MSQS Limits

	MSQS Type	BCS 31-33	BCS 34	BCS 35
MSQS_T1	WAIT	5 TO 2390	5 TO 2390	0, 5 TO 2390
MSQS_T1	CALLQ	1 TO 2398	1 TO 2398	0, 1 TO 2398
MSQS_T2	WAIT	10 TO 2395	T1 + 5	0, T1, T1 + 5
MSQS_T2	CALLQ	2 TO 2399	T1 + 1	0, T1, T1 + 1
MSQS_T3	WAIT	15 TO 2400	T2 + 5	0, T2, T2 + 5
MSQS_T3	CALLQ	3 TO 2400	T2 + 1	0, T2, T2 + 1

Note: The MSQSTYPEChanged (Section 3.3.5.25) and the MSQSThresholdChanged (Section 3.3.5.18) messages are linked. Consequently when either one is sent, the DSP should expect the other one to follow.

3.3.5.18.1 switchSendLoadMgmtEvent

switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17

3.3.5.18.2 LoadMgmtEvent

LoadMgmtEvent ::= CHOICE
    MSQSThresholdChanged [10] IMPLICIT OCTET STRING,
        -- Bytes0-4 : acd_group_dn
        -- Byte 5 : acd_group_dn_count
        -- Bytes6-7 : msqs_t1
        -- Bytes8-9 : msqs_t2
        -- Bytes10-11 : msqs_t3

3.3.5.19 EhOvflChanged

This Load Management Event message provides information on the new Enhanced Overflow Route List of an ACD group. It is generated when the enhanced overflow list for an ACD group is changed. The message contains the following fields:

SRC_ACD_GROUP_DN
SRC_ACD_GROUP_DN_COUNT
NEW_EH_OVFL_GRP_ONE_DN
NEW_EH_OVFL_GRP_ONE_DN_COUNT

NEW_EH_OVFL_GRP_TWO_DN
NEW_EH_OVFL_GRP_TWO_DN_COUNT
NEW_EH_OVFL_GRP_THREE_DN
NEW_EH_OVFL_GRP_THREE_DN_COUNT
NEW_EH_OVFL_GRP_FOUR_DN
NEW_EH_OVFL_GRP_FOUR_DN_COUNT
NEW_EH_OVFL_NUM_GROUPS

SRC_ACD_GROUP_DN is the Primary ACD-DN of the source group whose enhanced overflow routing is being changed.

SRC_ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the source ACD group. The ACD-DN can be up to ten digits.

NEW_EH_OVFL_GRP_ONE_DN is the Primary ACD-DN of the first ACD group in the enhanced overflow route list.

NEW_EH_OVFL_GRP_ONE_DN_COUNT specifies the number of digits in the ACD-DN of the first ACD group The ACD-DN can be up to ten digits.

NEW_EH_OVFL_GRP_TWO_DN is the Primary ACD-DN of the second ACD group in the enhanced overflow route list.

NEW_EH_OVFL_GRP_TWO_DN_COUNT specifies the number of digits in the ACD-DN of the second ACD group. The ACD-DN can be up to ten digits.

NEW_EH_OVFL_GROUP_THREE_DN is the Primary ACD-DN of the third ACD group in the enhanced overflow route list.

NEW_EH_OVFL_GRP_THREE_DN_COUNT specifies the number of digits in the ACD-DN of the third ACD group. The ACD-DN can be up to ten digits.

NEW_EH_OVFL_GRP_FOUR_DN is the Primary ACD-DN of the fourth ACD group in the enhanced overflow route list.

NEW_EH_OVFL_GRP_FOUR_DN_COUNT specifies the number of digits in the ACD-DN of the fourth ACD group. The ACD-DN can be up to ten digits.

NEW_EH_OVLF_NUM_GROUPS specifies the number of ACD groups in the enhanced overflow list for the particular ACD group specified in the SRC_ACD_GROUP_DN field. Up to four ACD groups can be specified as overflow groups for a given SRC_ACD_GROUP_DN. All groups must be

within the same Switch. If there are no ACD groups specified, the value of this field is zero.

3.3.5.19.1 switchSendLoadMgmtEvent

switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17

3.3.5.19.2 LoadMgmtEvent

LoadMgmtEvent ::= CHOICE
    EhOvflChanged [6] IMPLICIT OCTET STRING,

-- Bytes0-4	: src_acd_group_dn
-- Byte 5	: src_acd_group_dn_count
-- Bytes6-10	: new_eh_ovfl_grp_one_dn
-- Byte 11	: new_eh_ovfl_grp_one_dn_count
-- Bytes12-16	: new_eh_ovfl_grp_two
-- Byte 17	: new_eh_ovfl_grp_two_dn_count
-- Bytes18-22	: new_eh_ovfl_grp_three
-- Byte 23	: new_eh_ovfl_grp_three_dn_co
-- Bytes24-28	: new_eh_ovfl_grp_four
-- Byte 29	: new_eh_ovfl_grp_four_dn_count
-- Byte 30	: new_eh_ovfl_num_groups
-- Byte 31	: reserved

3.3.5.20 CIFROUTEChanged

Interflow Route of an ACD group. It is sent when the CifRoute for an ACD group is changed. The message contains the following fields.

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_CIFROUTE _INDEX
NEW_CIFROUTE_TABLE

ACD_GROUP_DN is the Primary ACD-DN of the group whose controlled interflow route is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_CIFROUTE_INDEX specifies the route list entry in the given routing table (range: 0 to 1023).

NEW_CIFROUTE_TABLE specifies the routing table that is used for the new controlled interflow route of the ACD group (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

3.3.5.20.1 switchSendLoadMgmtEvent

```
switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17
```

3.3.5.20.2 LoadMgmtEvent

```
LoadMgmtEvent ::= CHOICE
    CIFRouteChanged [19] IMPLICIT OCTET STRING,
                -- Bytes0-4          : acd_group_dn
                -- Byte 5            : acd_group_dn_count
                -- Bytes6-7          : new_cifroute_index
                -- Byte 8            : new_cifroute_table
                -- Byte 9            : reserved
```

3.3.5.21 NSAUDIOGroupChanged

This request message provides information about the new the audio group requested for night service announcement by the ACD group. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_AUDIO_GROUP

ACD_GROUP_DN is the Primary ACD-DN of the group whose NSAUDIO group is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the group. The ACD-DN can be up to ten digits.

NEW_AUDIO_GROUP is the new audio group used to provide night service announcement to callers prior to rerouting the call to the night service route (range: 1 to 512).

3.3.5.21.1 switchSendLoadMgmtEvent

```
switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17
```

3.3.5.21.2 LoadMgmtEvent

```
LoadMgmtEvent ::= CHOICE
    NSAudioGroupChanged [25] IMPLICIT OCTET STRING,
                -- Bytes0-4          : acd_group
                -- Byte 5            : acd_group_dn_count
                -- Bytes6-7          : new_audio_group
```

3.3.5.22 CTQSIZEChanged

This Load Management Event message provides information about the new Call Transfer Queue Size (CTQSIZE) for this ACD group. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_CTQSIZE

ACD_GROUP_DN is the Primary ACD-DN of the group whose CTQSIZE is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the group. The ACD-DN can be up to ten digits.

NEW_CTQSIZE indicates the maximum number of calls that can be transferred directly to agents in this group (range: 0-42).

Note: In this release Personal Agent Queue (PAQ) is introduced. It is a partitioning of the Call Transfer Agent Queue (CTQ) on a per agent basis and it represents the total of calls within the CTQ a particular agent can have at any one time. At present the information on PAQ size is only accessible by the ACD Administrator at the switch through ACDSHOW.

3.3.5.22.1 switchSendLoadMgmtEvent

```
switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17
```

3.3.5.22.2 LoadMgmtEvent

```
LoadMgmtEvent ::= CHOICE
    CTQSizeChanged [26] IMPLICIT OCTET STRING,
                -- Bytes0-4          : acd_group_dn
                -- Byte 5            : acd_group_dn_count
                -- Bytes6-7          : new_ctqsize
```

3.3.5.23 DefLOBChanged

This Load Management Event message provides information on the new default Line of Business for this group. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_DEFLOB

ACD_GROUP_DN is the Primary ACD-DN of the ACD group associated with this request.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the new ACD group. The ACD-DN can be up to ten digits.

NEW_DEFLOB is the default LOB. The first 3 nibbles are the 3 digit LOB, and the 4th nibble is the length (length=0 indicates no default LOB).

3.3.5.23.1 switchSendLoadMgmtEvent

switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17

3.3.5.23.2 LoadMgmtEvent

LoadMgmtEvent ::= CHOICE
    DefLobChanged [27] IMPLICIT OCTET STRING,
        -- Bytes0-4 : acd_group_dn
        -- Byte 5 : acd_group_dn_count
        -- Bytes6-7 : new_defLOB

3.3.5.24 WRPTIMEChanged

This Load Management Event message provides information on a new Variable Wrap-up Time associated with either the ACD Group, or an agent login id. It is sent when the default WRPTIME associated with an ACD group, or the WRPTIME associated with an agent login id is changed. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
AGENT_LOGINID
NEW_WRPTIME

ACD_GROUP_DN is the Primary ACD-DN of the group whose default WRPTIME is being changed. When changing the WRPTIME for an Agent this value is 0. Also, when a change is done for Login ID this field will contain the identification of the ACDGroup in the MISGroup option for Login ID.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits. A value of zero indicates the WRPTIME is associated with the AGENT_LOGINID, not the ACD_GROUP. When changing the WRPTIME for an Agent this value is zero.

AGENT_LOGINID is the agent login id associated with the NEW_WRPTIME. If the NEW_WRPTIME is associated with the ACD group, this field is set to zero.

NEW_WRPTIME is the value of the new Variable Wrap-up time (range 0 to 900 seconds). This is the amount of time from the time an ACD call is completed and a new ACD call is presented to the agent.

3.3.5.24.1 switchSendLoadMgmtEvent

switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17

3.3.5.24.2 LoadMgmtEvent

LoadMgmtEvent ::= CHOICE
WRPTIMEChanged [28] IMPLICIT OCTET STRING,
        -- Bytes0-4 : acd_group_dn
        -- Byte 5 : acd_group_dn_count
        -- Bytes6-7 : agent_loginid
        -- Bytes8-9 : new_wrptime

3.3.5.25 MSQSTYPEChanged

This Load Management message provides information on whether the MSQS ranges are associated with CALL QUEUE size or CALL WAIT time. It is sent when the MSQSTYPE of an ACD group is changed. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_MSQSTYPE

ACD_GROUP_DN is the Primary ACD-DN of the group whose MSQSTYPE is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_MSQSTYPE indicates if the MSQS Thresholds are based on CALL QUEUE size (value = 1) or CALL WAIT time (value = 0).

Note: The MSQSTYPEChanged (Section 3.3.5.25) and the MSQSThresholdChanged (Section 3.3.5.18) messages are linked. Consequently when either one is sent, the DSP should expect the other one to follow.

3.3.5.25.1 switchSendLoadMgmtEvent

switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17

3.3.5.25.2 LoadMgmtEvent

LoadMgmtEvent ::= CHOICE
MSQSTypeChanged [29] IMPLICIT OCTET STRING,

-- Bytes0-4	: acd_group_dn
-- Byte 5	: acd_group_dn_count
-- Byte 6	: new_msqs_type
-- Byte 7	: reserved

3.3.5.26 TMDTHRTEChanged

This Load Management Event message provides information on the Time Delay Threshold Route (TMDTHRTE) associated with the ACD group. It is sent when the TMDTHRTE of an ACD group is changed. This route is used for rerouting Time Delay Overflow calls which have remained unanswered for a designated time. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_TMDTHRTE_INDEX
NEW_TMDTHRTE_TABLE

ACD_GROUP_DN is the Primary ACD-DN of the group whose Time Delay Threshold Route is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_TMDTHRTE_INDEX specifies the route entry in the given route table (range 0-1023).

NEW_TMDTHRTE_TABLE specifies the route table used for Time Delay Threshold Routing (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

3.3.5.26.1 switchSendLoadMgmtEvent

switchSendLoadMgmtEventOPERATION
ARGUMENT
{ LoadMgmtEvent }
::= 17

3.3.5.26.2 LoadMgmtEvent

LoadMgmtEvent ::= CHOICE
TMDTHRTEChanged [30] IMPLICIT OCTET STRING,

-- Bytes0-4	: acd_group_dn
-- Byte 5	: acd_group_dn_count
-- Bytes6-7	: new_tmdthrte_index
-- Byte 8	: new_tmdthrte_table
-- Byte 9	: reserved

3.3.5.27 TMDTHTIMEChanged

This message provides information on the Time Delay Threshold Time (TMDTHTIME) associated with the ACD group. It is sent when the TMDTHTIME of an ACD group is changed. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_TMDTHTIME

ACD_GROUP_DN is the Primary ACD-DN of the group whose Time Delay Threshold Time is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_TMDTHTIME is the maximum amount of time in seconds a Time Delay Overflowed call will remain enqueued before being rerouted to the Time Delay Threshold Route (TMDTHRTE) (range: 0 to 1800).

3.3.5.27.1 switchSendLoadMgmtEvent

```
switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17
```

3.3.5.27.2 LoadMgmtEvent

```
LoadMgmtEvent ::= CHOICE
TMDTHTIMEChanged [31] IMPLICIT OCTET STRING,
                -- Bytes0-4          : acd_group_dn
                -- Byte 5            : acd_group_dn_count
                -- Bytes6-7          : new_tmdthtime
```

3.3.5.28 FIAUDIOGroupChanged

This Load Management Event message provides information on the new Audio group associated with the ACD group to be used to give Forced Incoming Announcements. It is sent when the FIAUDIO group of an ACD group is changed. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_FIAUDIO_GROUP

ACD_GROUP_DN is the Primary ACD-DN of the group whose FIAUDIO group is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_FIAUDIO_GROUP specifies the new audio group to be used to give Forced Incoming Announcements to new incoming ACD calls (range: 1 to 512).

3.3.5.28.1 switchSendLoadMgmtEvent

switchSendLoadMgmtEventOPERATION
ARGUMENT
{ LoadMgmtEvent }
::= 17

3.3.5.28.2 LoadMgmtEvent

LoadMgmtEvent ::= CHOICE
FIAUDIOGroupChanged [32] IMPLICIT OCTET STRING,
-- Bytes0-4 : acd_group_dn
-- Byte 5 : acd_group_dn_count
-- Bytes6-7 : new_fiaudio_group

3.3.5.29 FOAUDIOGroupChanged

This Load Management Event message provides information on the new Audio group associated with the ACD group to be used to give Forced Overflow Announcements. It is sent when the FOAUDIO group of an ACD group is changed. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_FIAUDIO_GROUP

ACD_GROUP_DN is the Primary ACD-DN of the group whose FOAUDIO group is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_FOAUDIO_GROUP specifies the new audio group to be used to give Forced Overflow Announcements for deflected ACD calls (range: 1 to 512).

3.3.5.29.1 switchSendLoadMgmtEvent

switchSendLoadMgmtEventOPERATION
ARGUMENT
{ LoadMgmtEvent }
::= 17

3.3.5.29.2 LoadMgmtEvent

```
LoadMgmtEvent ::= CHOICE
FOAUDIOGroupChanged [33] IMPLICIT OCTET STRING,
                -- Bytes0-4          : acd_group_dn
                -- Byte 5            : acd_group_dn_count
                -- Bytes6-7          : new_foaudio_group
```

3.3.5.30 ORGANNChanged

This Load Management Event message provides information on who should provide announcements for calls overflowed to this group. It is sent when the ORGANN of an ACD group is changed. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_ORGANN

ACD_GROUP_DN is the Primary ACD-DN of the group whose ORGANN value is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_ORGANN indicates if Forced Incoming announcements and delay announcements for calls overflowing into this group are to be given from the original group (value = 1) or from this group (value = 0)

3.3.5.30.1 switchSendLoadMgmtEvent X.409 notation

```
switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17
```

3.3.5.30.2 LoadMgmtEvent

```
LoadMgmtEvent ::= CHOICE
ORGANNChanged [34] IMPLICIT OCTET STRING,
                -- Bytes0-4          : acd_group_dn
                -- Byte 5            : acd_group_dn_count
                -- Byte 6            : new_organn
                -- Byte 7            : reserved
```

3.3.5.31 ACTIVATEChanged

This Load Management Event message enhances the LOADMGMT CHANGE command with a new subcommand to activate/deactivate Login ID's within the appropriate partition in Table ACDENLOG. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
AGENT_LOGINID_LOW
AGENT_LOGINID_HIGH
ACTIVATE_STATE

ACD_GROUP_DN is the Primary ACD-DN of the ACD group datafilled in the MISGROUP option for the login ids whose ACTIVATE state has been changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

AGENT_LOGINID_LOW is the lowest numbered login id in the range of login ids which have been activated/deactivated (range: 1 to 9999).

AGENT_LOGINID_HIGH is the highest numbered login id in the range of login ids which have been activated/deactivated (range: 1 to 9999).

ACTIVATE_STATE determines whether the login ids specified have been activated or deactivated. A value of zero indicates deactivation, while a value of one indicates activation.

3.3.5.31.1 switchSendLoadMgmtEvent X.409 notation

```
switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17
```

3.3.5.31.2 LoadMgmtEvent

```
LoadMgmtEvent ::= CHOICE
ACTIVATEChanged [35] IMPLICIT OCTET STRING,
                -- Bytes0-4        : acd_group_dn
                -- Byte 5          : acd_group_dn_count
                -- Byte 6-7        : agent_loginid_low
                -- Byte 8-9        : agent_loginid_high
                -- Byte 10         : activate_state
```

3.3.5.32 RENQTOUTChanged

This Load Management Event message provides information on the Re-enqueued Time-Out Time (RENQTOUT) associated with the ACD group. It is sent when the RENQTOUT time of an ACD group is changed. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_RENQTOUT_TIME

ACD_GROUP_DN is the Primary ACD-DN of the group whose Re-enqueue Time-Out Time is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_RENQTOUT_TIME is the maximum amount of time, in seconds, a Re-enqueued call will remain re-enqueued before being routed to the Re-enqueue Route (RENQRTE) or the Re-enqueue Audio Announcement (RENQAUD) (range: 0 to 1800).

3.3.5.32.1 switchSendLoadMgmtEvent

switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17

3.3.5.32.2 LoadMgmtEvent

LoadMgmtEvent ::= CHOICE
RENQTOUTChanged [32] IMPLICIT OCTET STRING,
        -- Bytes0-4 : acd_group_dn
        -- Bytes5 : acd_group_dn_count
        -- Bytes6-7 : new_renqtout_time

3.3.5.33 RENQRTEChanged

This Load Management Event message provides information on the Re-enqueue Route (RENQRTE) associated with the ACD group. It is sent when the RENQRTE is changed. This route is used for rerouting Re-enqueued Time-Out calls which have remained unanswered for a designated time. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_RENQRTE_INDEX
NEW_RENQRTE_TABLE

ACD_GROUP_DN is the Primary ACD-DN of the group whose Re-enqueue Time-Out Time is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_RENQRTE_INDEX specifies the route entry in the given route table (range: 0 to 1023).

NEW_RENQRTE_TABLE specifies the route table for Re-enqueue Routing.

3.3.5.33.1 switchSendLoadMgmtEvent

```
switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17
```

3.3.5.33.2 LoadMgmtEvent

```
LoadMgmtEvent ::= CHOICE
RENQRTEChange [33] IMPLICIT OCTET STRING,
                -- Bytes0-4          : acd_group_dn
                -- Bytes5            : acd_group_dn_count
                -- Bytes6-7          : new_renqrte_index
                -- Bytes8            : new_renqrte_table
                -- Bytes9            : reserved
```

3.3.5.34 RENQAUDChanged

This Load Management Event message provides information on the new Audio group associated with the ACD group used to give Re-enqueued Audio announcements. It is sent when the RENQAUD group of an ACD group is changed. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_AUDIO_GROUP

ACD_GROUP_DN is the Primary ACD-DN of the group whose Re-enqueue Time-Out Time is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_AUDIO_GROUP specifies the audio group to be used to give Re-enqueued Announcements to calls that have exceeded the RENQOUT time (range: 0 to 512).

3.3.5.34.1 switchSendLoadMgmtEvent

```
switchSendLoadMgmtEventOPERATION
    ARGUMENT
        { LoadMgmtEvent }
    ::= 17
```

3.3.5.34.2 LoadMgmtEvent

```
LoadMgmtEvent ::= CHOICE
RENQAUDChanged [32] IMPLICIT OCTET STRING,
                -- Bytes0-4          : acd_group_dn
```

```
-- Bytes5          : acd_group_dn_count
-- Bytes6-7        : new_audio_group
```

3.4 Messages Sent From The DSP To The Switch

All Remote Operations requested from the DSP and executed on the Switch are fully described by their command Arguments, the Return Result, and the Return Error. This Section describes the various commands functions and presents their arguments and possible values. It also describes the Return Result part of the inquire Remote Operations because the data requested from the Switch is sent back during the Return Result.

The following categories of messages are sent to the Switch:

1 DSP CONTROL MESSAGES: A request for information needed to Initialize the DSP and control the message flow - Section 3.4.1 on page 154.

2 INQUIRE SWITCH DATA MESSAGES: A request for data item needed by the user and stored only in the Switch - Section 3.4.2 on page 161.

3 LOAD MANAGEMENT REQUEST MESSAGES: A request to change a load management parameter in the Switch - Section 3.4.3 on page 169.

3.4.1 DSP Control Messages

Control messages are sent from the DSP to the Switch requesting to synchronize its data with that of the switch. The following request messages are included:

1 AssociatePool - Section 3.4.1.1 on page 154.

2 RequestInit - Section 3.4.1.2 on page 157.

3 StopInit - Section 3.4.1.3 on page 158.

4 StartTransfer - Section 3.4.1.4 on page 159.

5 StopTransfer - Section 3.4.1.5 on page 160.

3.4.1.1 AssociatePool (Operation Value 1)

This DSP Control message is invoked by the DSP to indicate to the Switch that the DSP wants to associate a specified NACD pool with the ACD-MIS Data Stream (i.e. Switched Virtual Circuit -SVC) This message contains the following fields:

NODE_ID
NODE_ID_DN_COUNT
POOL_NAME
PASSWORD
THROTTLE

NODE_ID is the number which identifies the ACD Switch on the Network. This field permits the DMS to verify that the Pool Name and password are actually intended for the correct switch.

NODE_ID_DN_COUNT specifies the number of digits in the NODE_ID. The NODE_ID can be up to 10 digits.

POOL_NAME is the string identifying a collection of ACD groups residing on this node which the DSP needs to associate with its virtual circuit.

PASSWORD the combination of the pool name / password is used by the Switch to enforce security for ACD customer groups.

THROTTLE is the number of outstanding control message which the DSP allows the Switch to process without replies (range: 0 or 1 to 127). If a zero is specified, then the control messages are not throttled.

The ReturnResult expected from this operation contains:

ACDVersion is the ACD protocol version that the Switch is using. DMS/SL-100 will support the latest sixteen versions of the protocol. For example at BCS30, the Switch will support BCS30/29/28/27... etc. versions of the protocol.

NACDEQUIPPED indicates the Switch is equipped with NACDsoftware.

3.4.1.1.1 dspAssociatePool X.409 notation

```
dspAssociatePoolOPERATION
    ARGUMENT SEQUENCE
        { PoolName,
        Password,
        Throttle}
    RESULT SEQUENCE
        { ACDVersion,
        NACD - EQUIPPED }
    ERROR
        { invalidArgument,
        operationSequenceProblem,
        systemProblem,
        applicationResourceShortage }
    ::= 1
```

3.4.1.1.2 PoolName

PoolName ::= IA5STRING

- String length must be >= 1 character and <= 16 characters.
- Valid characters are capitalized A to Z, and digits from 0 to 9.

3.4.1.1.3 Password

Password ::= IA5STRING

- String length must be >= 5 characters and <= 16 characters.
- Valid characters are capitalized A to Z, and digits from 0 to 9.

3.4.1.1.4 Throttle

Throttle ::= INTEGER

- Zero, or in the range 1 to 127.
- Zero indicates that throttling does not occur.

3.4.1.1.5 ACDVersion

ACDVersion ::= IA5STRING
{BCS24, BCS25, BCS26, BCS27, BCS29, BCS30, BCS31, BCS32, BCS33}

3.4.1.1.6 NACDEquipped

NACD Equipped::=BOOLEAN

3.4.1.1.7 invalidArgument

invalidArgument ERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 64

    Note: For reasonCode parameters see Section 4.2 on page 201.

3.4.1.1.8 operationSequenceProblem

operationSequenceProblemERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 65

    Note: For reasonCode parameters see Section 4.3 on page 202.

3.4.1.1.9 applicationResourceShortage

applicationResourceShortageERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 66

    Note: For reasonCode parameters see Section 4.4 on page 203.

3.4.1.1.10 systemProblem

```
systemProblemERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 67
```

Note: For reasonCode parameters see Section 4.5 on page 203.

3.4.1.2 RequestInit (Operation Value 2)

This DSP Control message is issued from the DSP when the data link is first established or whenever the DSP requires data initialization. The ACD configuration messages that are transmitted from the associated ACD switches to the DSP include:

1 SubPoolData - Section 3.3.2.1 on page 49.

2 ACDGroupData - Section 3.3.2.2 on page 50.

3 ACDVFGData - Section 3.3.2.3 on page 60.

4 Audio List - Section 3.3.2.4 on page 65.

5 RouteList - Section 3.3.2.5 on page 67.

6 ACDSupplDNData - Section 3.3.2.6 on page 70.

7 ACDSubGroupData - Section 3.3.2.7 on page 71.

8 AgentPositionData - Section 3.3.2.8 on page 72.

9 ACDNetworkGroupRoutingData. - Section 3.3.2.9 on page 74.

The request initialization message does not contain any fields.

3.4.1.2.1 dspRequestInit X.409 notation

```
dspRequestInitOPERATION
    ARGUMENT NULL
    RESULT NULL
    ERROR
        { operationSequenceProblem,
        systemProblem,
        applicationResourceShortage }
    ::= 2
```

3.4.1.2.2 operationSequenceProblem

```
operationSequenceProblemERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 65
```

Note: For reasonCode parameters see Section 4.3 on page 202.

3.4.1.2.3 applicationResourceShortage

applicationResourceShortageERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 66

Note: For reasonCode parameters see Section 4.4 on page 203.

3.4.1.2.4 systemProblem

systemProblemERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 67

Note: For reasonCode parameters see Section 4.5 on page 203.

3.4.1.3 StopInit (Operation Value 3)

The Stop Initialization message is sent from the DSP to the Switch requesting to immediately stop the transmission of the configuration data. This message does not contain any fields.

3.4.1.3.1 dspStopInit

dspStopInitOPERATION
    ARGUMENT NULL
    RESULT NULL
    ERROR
        { operationSequenceProblem,
        systemProblem,
        applicationResourceShortage }
    ::= 3

3.4.1.3.2 operationSequenceProblem

operationSequenceProblemERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 65

Note: For reasonCode parameters see Section 4.3 on page 202.

3.4.1.3.3 applicationResourceShortage

applicationResourceShortageERROR
    PARAMETER SEQUENCE

```
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 66
```

Note: For reasonCode parameters see Section 4.4 on page 203.

3.4.1.3.4 systemProblem

```
systemProblemERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 67
```

Note: For reasonCode parameters see Section 4.5 on page 203.

3.4.1.4 StartTransfer (Operation Value 5)

The Start Transfer message is invoked by the DSP to inform the Switch that the DSP is ready to accept the transmission of ACD Event messages, as well as RIChanged Load Management Event messages. Note that all other Load Management Event messages can be sent at anytime and are not controlled by this message. This message does not contain any fields.

3.4.1.4.1 dspStartTransfer

```
dspStartTransferOPERATION
    ARGUMENT NULL
    RESULT NULL
    ERROR
        { operationSequenceProblem,
        systemProblem,
        applicationResourceShortage }
    ::= 5
```

3.4.1.4.2 operationSequenceProblem

```
operationSequenceProblemERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 65
```

Note: For reasonCode parameters see Section 4.3 on page 202.

3.4.1.4.3 applicationResourceShortage

```
applicationResourceShortageERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 66
```

Note: For reasonCode parameters see Section 4.4 on page 203.

3.4.1.4.4 systemProblem

systemProblemERROR
PARAMETER SEQUENCE
{ reasonCode INTEGER,
parameter INTEGER }
::= 67

Note: For reasonCode parameters see Section 4.5 on page 203.

3.4.1.5 StopTransfer (Operation Value 6)

The Stop Transfer message is invoked by the DSP to inform the Switch to immediately stop the transmission of ACD Event messages and RIChanged Load Management Event messages. This message does not contain any fields.

3.4.1.5.1 dspStopTransfer

dspStopTransferOPERATION
ARGUMENT NULL
RESULT NULL
ERROR
{ operationSequenceProblem,
systemProblem,
applicationResourceShortage }
::= 6

3.4.1.5.2 operationSequenceProblem

operationSequenceProblemERROR
PARAMETER SEQUENCE
{ reasonCode INTEGER,
parameter INTEGER }
::= 65

Note: For reasonCode parameters see Section 4.3 on page 202.

3.4.1.5.3 applicationResourceShortage

applicationResourceShortageERROR
PARAMETER SEQUENCE
{ reasonCode INTEGER,
parameter INTEGER }
::= 66

Note: For reasonCode parameters see Section 4.4 on page 203.

3.4.1.5.4 systemProblem

systemProblemERROR
PARAMETER SEQUENCE

```
    { reasonCode INTEGER,
    parameter INTEGER }
::= 67
```

Note: For reasonCode parameters see Section 4.5 on page 203.

3.4.2 Inquire Switch Data Messages

Request messages are sent from the DSP to the Switch when a request is entered at an ACD-MIS terminal. The response or acknowledgment to these requests will contain the results of the request. The following request messages are included:

1 QueryDateAndTOD - Section 3.4.2.1 on page 161.

2 RequestAudioInformation - Section 3.4.2.2 on page 162.

3 RequestRouteInformation - Section 3.4.2.3 on page 164.

3.4.2.1 QueryDateAndTOD (Operation Value 4)

This message is invoked by the DSP to request the Date and Time Of Day (TOD) from the Switch. This message does not contain any fields. The Return Result message contains the Date and TOD values.

3.4.2.1.1 dspQueryDateAndTod

```
dspQueryDateAndTodOPERATION
    ARGUMENT NULL
    RESULT
        { DateAndTime }
    ERROR
        { operationSequenceProblem,
        systemProblem,
        applicationResourceShortage }
    ::= 4
```

3.4.2.1.2 DateAndTime

```
DateAndTime ::= OCTET STRING
                -- Byte 0      : year
                -- Byte 1      : month
                -- Byte 2      : day
                -- Byte 3      : hour
                -- Byte 4      : minute
                -- Byte 5      : second
```

3.4.2.1.3 operationSequenceProblem

```
operationSequenceProblemERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
```

parameter INTEGER }
::= 65

Note: For reasonCode parameters see Section 4.3 on page 202.

3.4.2.1.4 applicationResourceShortage

applicationResourceShortageERROR
PARAMETER SEQUENCE
{ reasonCode INTEGER,
parameter INTEGER }
::= 66

Note: For reasonCode parameters see Section 4.4 on page 203.

3.4.2.1.5 systemProblem

systemProblemERROR
PARAMETER SEQUENCE
{ reasonCode INTEGER,
parameter INTEGER }
::= 67

Note: For reasonCode parameters see Section 4.5 on page 203.

3.4.2.2 RequestAudioInfo (Operation Value 9)

This message provides information to the Switch when the audio information is requested by the DSP. The Audio Information selector is:

AUDIO_GROUP_NUMBER Range: 1 to 512.
The associated ReturnResult message contains the AUDIO_GROUP_INFO consisting of a set of up to six entries each selected from the multiple choices offered by AUDIO_ROUTE:

AUDIO_ROUTE is the service offered by the specified audio route:

1- Announcement
2- Music
3- Silence
4- Ringing
5- Repeat.

3.4.2.2.1 dspRequestAudioInfo

dspRequestAudioInfoOPERATION
ARGUMENT
{ AudioGroupNumber }
RESULT
{ AudioGroupInfo }
ERROR

```
        { invalidArgument,
        operationSequenceProblem,
        systemProblem,
        applicationResourceShortage }
    ::= 9
```

3.4.2.2.2 AudioGroupNumber

```
AudioGroupNumber ::= INTEGER
            -- Bytes0-1--Value must be in the range one to 512 inclusive.
                    --Specifies the audio group that the DSP
                    --requires information about.
```

3.4.2.2.3 AudioGroupInfo

```
AudioGroupInfo ::= SET OF AudioRoute
```

3.4.2.2.4 AudioRoute

```
AudioRoute ::= CHOICE
    {Annc  [0]  IMPLICIT IA5STRING,
            -- announcement CLLI.
     Music [1] IMPLICIT SEQUENCE,
            --Music CLLI       IA5STRING,
            --Time             INTEGER,
            --Length of music interval in
            --seconds between announcements.
            --If time equals zero music will
            --be continuous.
    Silence[2]  IMPLICIT INTEGER,
            -- Time Length of silence interval in
            -- seconds between announcements.
            -- If time equals zero silence will
            -- be continuous.
    Ringing[3]  IMPLICIT INTEGER,
            --Time Length of ringing interval in
            -- seconds between announcements.
            -- If time equals zero then ringing
            -- will be continuous.
    Repeat[4]  IMPLICIT INTEGER }
            --Route in the audio group route
            --list where repeating will begin.
```

3.4.2.2.5 invalidArgument

```
invalidArgument ERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 64
```

Note: For reasonCode parameters see Section 4.2 on page 201.

3.4.2.2.6 operationSequenceProblem

operationSequenceProblemERROR
PARAMETER SEQUENCE
{ reasonCode INTEGER,
parameter INTEGER }
::= 65

Note: For reasonCode parameters see Section 4.3 on page 202.

3.4.2.2.7 applicationResourceShortage

applicationResourceShortageERROR
PARAMETER SEQUENCE
{ reasonCode INTEGER,
parameter INTEGER }
::= 66

Note: For reasonCode parameters see Section 4.4 on page 203.

3.4.2.2.8 systemProblem

systemProblemERROR
PARAMETER SEQUENCE
{ reasonCode INTEGER,
parameter INTEGER }
::= 67

Note: For reasonCode parameters see Section 4.5 on page 203.

3.4.2.3 RequestRouteInfo Messages (Operation Value “A” Hex)

This message inquires about the information in the route list. When an entry of the routing table is queried, eight entries are returned in the Return Result of the query Remote Operation. The Return Result will contain one or more of the following:

1 RoutesToTableEntry Message - Section 3.4.2.3.1 on page 165.

2 ConditionalRoute Message - Section 3.4.2.3.2 on page 165.

3 RoutesToDN Message - Section 3.4.2.3.3 on page 165.

4 RoutesToDNXXXX Message - Section 3.4.2.3.4 on page 166.

5 RouteToCustGroup Message - Section 3.4.2.3.5 on page 165.

6 RouteToTrunkGroup Message - Section 3.4.2.3.6 on page 166.

7 RoutesToVTG Message - Section 3.4.2.3.7 on page 166.

8 RoutesToAttConsole Message - Section 3.4.2.3.8 on page 166.

This message contains the following fields:

ROUTING_TABLE_INDEX
ROUTING_TABLE_IDENTIFIER

ROUTING_TABLE_INDEX is the table entry in the queried routing table (range: 0 to 1023).

ROUTING_TABLE_IDENTIFIER is the type of the routing table to be accessed for the information (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

3.4.2.3.1 RoutesToTableEntry

This message returns information when the routing table entry that is queried subsequently routes to another routing table entry. The Return Result message contains the following fields:

ROUTING_TABLE_INDEX
ROUTING_TABLE_IDENTIFIER

ROUTING_TABLE_INDEX is the table entry returned by the query (range: 0 to 1023).

ROUTING_TABLE_IDENTIFIER is the type of routing table (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

3.4.2.3.2 ConditionalRoute

This message provides information when an element of the queried route table entry is conditional. The Return Result message contains the following fields:

ROUTING_TABLE_INDEX
ROUTING_TABLE_IDENTIFIER

ROUTING_TABLE_INDEX is the table entry returned by the query (range: 0 to 1023).

ROUTING_TABLE_IDENTIFIER is the type of routing table (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

3.4.2.3.3 RoutesToDN This message provides information when an element of the queried routing table routes to a displayable DN. The Return Result messages include the following fields:

DIRECTORY_NUMBER
DIRECTORY_NUMBER_COUNT

DIRECTORY_NUMBER is the DN that the routing table queried routes to.

DIRECTORY_NUMBER_COUNT is the number of digits in the DN (range: 0 to 14).

3.4.2.3.4 RoutesToDNXXXX

This message provides information when an element in the queried routing table routes the call to a DN with the same last four digits. The Return Results messages contain the following fields:

SNPA _AND_ NNX is the three-digit SNPA and three-digit NNX of the DN that are associated with the queried routes.

3.4.2.3.5 RoutesToCustGroup

This message provides information when an element of the queried routing table routes to a specified customer group and subgroup. The Return Result message contains the following field:

CLLI the 16-digit CLLI of the VFG in the routing table.

3.4.2.3.6 RoutesToTrunkGroup

This message provides information when an element of the queried routing table routes to a specified trunk group. The Return Result message contains the following field:

CLLI the 16-digit CLLI of the trunk group to which the routing table routes.

3.4.2.3.7 RoutesToVTG This message provides information when an element of the queried routing table routes to a specified Virtual Trunk Group (VTG). The Return Result messages contain the following field:

CLLI the 16-digit CLLI of the VTG to which the routing table routes.

3.4.2.3.8 RoutesToAttConsole

This message provides information when an element of the queried routing table routes to an attendant console. The Return Result messages contain the following field:

CLLI the 16-digit CLLI of the attendant console to which the routing table routes.

3.4.2.3.9 dspRequestRouteInfo X.409 notation

```
dspRequestRouteInfoOPERATION
    ARGUMENT SEQUENCE
        { RoutingTableIdentifier,
        RoutingTableIndex }
    RESULT
        { RouteInfo }
```

ERROR
{ invalidArgument,
operationSequenceProblem,
systemProblem,
applicationResourceShortage }
::= 10

3.4.2.3.10 RoutingTableIdentifier

RoutingTableIdentifier ::=
INTEGER
-- 0 identifies the table as OFRT.
-- 1 identifies the table as IBNRTE.
-- 2 identifies the table as OFRT2.
-- 3 identifies the table as OFRT3.
-- 4 identifies the table as OFRT4.
-- 5 identifies the table as IBNRT2.
-- 6 identifies the table as IBNRT3.
-- 7 identifies the table as IBNRT4.

Note: Used in conjunction with the RoutingTableIndex to specify the Routing table entry that the DSP requires information about.

3.4.2.3.11 RoutingTableIndex

RoutingTableIndex ::= INTEGER
-- In the range 0 to 1023.
-- Used in conjunction with the RoutingTableIdentifier to specify the
-- routing table entry that the DSP requires information about.

3.4.2.3.12 RouteInfo

RouteInfo ::= CHOICE
{ RoutesToTableEntry [0] IMPLICIT OCTET STRING,
-- Bytes0-1: routing_table_index
-- Byte2: routing_table_identifier
ConditionalRoute [1] IMPLICIT OCTET STRING,
-- Bytes0-1: routing_table_index
-- Bytes2: routing_table_identifier
RoutesToDn [2] IMPLICIT OCTET STRING,

-- Bytes0-6: directory_number
-- Bytes7: directory_number_count

RoutesToDnXXXX [3] IMPLICIT OCTET STRING,
-- Bytes0-2: snpa_and_nnx
RoutesToCustGroup [4] IMPLICIT SEQUENCE,
{ CustomerGroup,
CustomerSubgroup },
RoutesToTrunkGroup [5] IMPLICIT IA5STRING,
--Specifies the trunk group CLLI

```
    Routes to VTG   [6] IMPLICIT IA5STRING

        --Specifies the trunk group CLLI
    RoutesToAttCon          [7] IMPLICIT IA5STRING,
        --Specifies the customer group CLLI that
        --the attendant console belongs to
    RteInfoUnavailable      [8] NULL

        --Indicates index is empty}
```

3.4.2.3.13 CustomerGroup

```
CustomerGroup ::= IA5STRING
        -- A customer group CLLI is returned in the inquiry
        -- about the route to customer group.
```

3.4.2.3.14 CustomerSubgroup

```
CustomerSubgroup ::= INTEGER
        -- In the range 0 to 127 inclusive, and returned in an inquiry
        -- about route to customer group.
```

3.4.2.3.15 invalidArgument

```
invalidArgument ERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter  INTEGER }
    ::= 64
```

Note: For reasonCode parameters see Section 4.2 on page 201.

3.4.2.3.16 operationSequenceProblem

```
operationSequenceProblemERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter  INTEGER }
    ::= 65
```

Note: For reasonCode parameters see Section 4.3 on page 202.

3.4.2.3.17 applicationResourceShortage

```
applicationResourceShortageERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 66
```

Note: For reasonCode parameters see Section 4.4 on page 203.

3.4.2.3.18 systemProblem

```
systemProblemERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 67
```

Note: For reasonCode parameters see Section 4.5 on page 203.

3.4.3 Load Management Request Messages (Operation Value 8)

The load management request messages discussed in this section are sent from the DSP to the Switch when a load management command is issued by the DSP. The following Load management request messages are included:

1 ReassignAgentPos - Section 3.4.3.2 on page 172.

2 ReassignACDDN - Section 3.4.3.3 on page 172.

3 ChangeSubPool - Section 3.4.3.4 on page 174.

4 ChangePrioPro - Section 3.4.3.5 on page 174.

5 ChangeMaxWait - Section 3.4.3.6 on page 175.

6 ChangeWaitThreshold - Section 3.4.3.7 on page 176.

7 ChangeTmDelOvfl - Section 3.4.3.8 on page 176.

8 ChangeOVLTYPE - Section 3.4.3.9 on page 177.

9 ChangeService - Section 3.4.3.10 on page 178.

10 ChangeMaxCqSize - Section 3.4.3.11 on page 178.

11 ChangeMaxVqSize - Section 3.4.3.12 on page 179.

12 ChangeQueueThreshold - Section 3.4.3.13 on page 180.

13 ChangeACDDNPrio - Section 3.4.3.14 on page 180.

14 ChangeAudioGroup - Section 3.4.3.15 on page 181.

15 ChangeRANTH - Section 3.4.3.16 on page 182.

16 ChangePWF - Section 3.4.3.17 on page 182.

17 ChangeRI - Section 3.4.3.18 on page 183.

18 ChangeThRoute - Section 3.4.3.19 on page 184.

19 ChangeNsRoute - Section 3.4.3.20 on page 185.

20 ChangeACDDNName - Section 3.4.3.21 on page 185.

21 ChangeACDDispDigs - Section 3.4.3.22 on page 186.

22 ChangeMSQSThreshold - Section 3.4.3.23 on page 187.

23 ChangeEhOvfl - Section 3.4.3.24 on page 188.

24 ChangeCIFRoute - Section 3.4.3.25 on page 190.

25 ChangeNSAUDIOGroup - Section 3.4.3.26 on page 191.

26 ChangeCTQSIZE - Section 3.4.3.27 on page 191.

27 ChangeBestGrp - Section 3.4.3.28 on page 192.

28 ChangeSrvRate - Section 3.4.3.29 on page 193.

29 ChangeNumIdle - Section 3.4.3.30 on page 193.

30 ChangeTimeIdle - Section 3.4.3.31 on page 194.

31 ChangeDefLOB - Section 3.4.3.32 on page 194.

32 ChangeWRPTIME - Section 3.4.3.33 on page 195.

33 ChangeMSQSType - Section 3.4.3.34 on page 196.

34 ChangeTMDTHRTE - Section 3.4.3.35 on page 196.

35 ChangeTMDTHTIME - Section 3.4.3.36 on page 197.

36 ChangeFIAUDIOGroup - Section 3.4.3.37 on page 198.

37 ChangeFOAUDIOGroup - Section 3.4.3.38 on page 198.

38 ChangeORGANN - Section 3.4.3.39 on page 199.

39 ChangeACTIVATE - Section 3.4.3.40 on page 199.

3.4.3.1 dspRequestLoadMgmt X.409 notation

```
dspRequestLoadMgmtOPERATION
    ARGUMENT SEQUENCE
        { LoadMgmtRequest,
        SubPoolNumber,
        Password }
    RESULTNULL
    ERROR
        { invalidArgument,
        operationSequenceProblem,
        systemProblem,
        applicationResourceShortage }
    ::= 8
```

3.4.3.1.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
```

The notation for this section is included with the sections that explain each load management message.

3.4.3.1.2 SubPoolNumber

SubPoolNumber ::= INTEGER

- In the range 0 to 127

3.4.3.1.3 Password

Password ::= IA5STRING

- String length must be >= 5 characters and <= 16 characters.
- Valid characters are capitalized A to Z, and digits from 0 to 9.

3.4.3.1.4 invalidArgument

invalidArgument ERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 64

Note: For reasonCode parameters see Section 4.2 on page 201.

3.4.3.1.5 operationSequenceProblem

operationSequenceProblemERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 65

Note: For reasonCode parameters see Section 4.3 on page 202.

3.4.3.1.6 applicationResourceShortage

applicationResourceShortageERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 66

Note: For reasonCode parameters see Section 4.4 on page 203.

3.4.3.1.7 systemProblem

systemProblemERROR
    PARAMETER SEQUENCE
        { reasonCode INTEGER,
        parameter INTEGER }
    ::= 67

Note: For reasonCode parameters Section 4.5 on page 203.

3.4.3.2 ReassignAgentPos

This Load Management Request message provides information on the reassignment of an ACD agent position to a new ACD group, a new supervisor, or both. The message is sent from the DSP to the Switch when this Reassign command is entered in the DSP. The message contains the following fields:

NEW_ACD_GROUP_DN
NEW_ACD_GROUP_DN_COUNT
NEW_SUPERVISOR_ID
AGENT_POS_ID

NEW_ACD_GROUP_DN is the Primary ACD-DN of the ACD group to which the agent position will be assigned.

NEW_ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the new ACD group. The ACD-DN can be up to ten digits.

NEW_SUPERVISOR_ID is the position ID of the supervisor to which the agent will be assigned (range: 1 to 9999). A zero means that the agent position will not be associated with a supervisor position in the Switch. Zero is not valid if the set has either the Call Supervisor Key or the Emergency Key with a datafill of DIFFINC = N.

This ID is invalid if it is a PositionID which is out of bounds or not recognized for that group.

AGENT_POS_ID s the position ID of the agent being reassigned (range: 1 to 9999).

3.4.3.2.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ReassignAgentPos[0]  IMPLICIT OCTET STRING,
                    -- Bytes0-4          : new_acd_group_dn
                    -- Byte 5             : new_acd_group_dn_count
                    -- Bytes6-7           : new_supervisor_id
                    -- Bytes8-9           : agent_pos_id}
```

3.4.3.3 ReassignACDDN

This Load Management Request message is used to reassign a Supplementary ACD-DN to another ACD group. The message is sent from the DSP to the Switch when a REASSIGN ACDDN command is entered in the DSP.

Note: Supplementary ACD DN can only be assigned to another group in the same Pool (i.e: on the same switch), DN's CAN NOT be transferred between Switches.

For both nodal and networked ACD, the Primary DN cannot be reassigned.

The message contains the following fields:

SRC_ACD_GROUP_DN
SRC_ACD_GROUP_DN_COUNT
DEST_ACD_GROUP_DN
DEST_ACD_GROUP_DN_COUNT
SRC_REASSIGNED_ACD_DN
SRC_REASSIGNED_ACD_DN_COUNT
PRIMARY_IN_NEW_GROUP
PRIORITY_ONE
PRIORITY_TWO

SRC_ACD_GROUP_DN is the Primary ACD-DN of the source group that possess the ACD-DN to be reassigned.

SRC_ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the source ACD group. The ACD-DN can be up to ten digits.

DEST_ACD_GROUP_DN is the Primary ACD-DN of the destination group that will receive the ACD-DN which will be reassigned.

DEST_ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the destination ACD group. The ACD-DN can be up to ten digits.

SRC_REASSIGNED_ACD_DN is the ACD-DN in the source group (Supplementary DN) which will be reassigned. When a DN is reassigned to another group, it is removed from the source ACD Group.

SRC_REASSIGNED_ACD_DN_COUNT specifies the number of digits in the ACD-DN which will be reassigned. The ACD-DN can be up to ten digits.

PRIMARY_IN_NEW_GROUP has a value of 0 or 1. A value of zero indicates that the reassigned ACD-DN is a Primary ACD-DN in the new group. A value of one indicates that the ACD-DN is a Supplementary ACD-DN. Currently only a value of 1 is supported because only Supplementary DN's can be targets of reassignments.

PRIORITY_ONE ranges from 0 to 3. If PRIMARY_IN_NEW_GROUP has a value of 1, this field contains the priority that the ACD-DN is assigned to the DEST_ACD_GROUP_DN when it is reassigned as a Supplementary DN.

PRIORITY_TWO This field is not used.

3.4.3.3.1 LoadMgmtRequest

LoadMgmtRequest ::= CHOICE

```
{ReassignACDDN[1]  IMPLICIT OCTET STRING,
                    -- Bytes0-4          : src_acd_group_dn
                    -- Byte 5            : src_acd_group_dn_count
                    -- Bytes6-10         : dest_acd_group_dn
                    -- Byte 11           : dest_acd_group_dn_count
                    -- Bytes12-16        : src_reassigned_acd_dn
                    -- Byte 17           : src_reassigned_acd_dn_count
                    -- Byte 18           : primary_in_new_group
                    -- Byte 19           : priority_one
                    -- Byte 20           : priority_two
                    -- Byte 21           : reserved}
```

3.4.3.4 ChangeSubPool

This Load Management Request message provides information on the ACD group and the new SUBPOOL value. The message is sent from the DSP to the Switch when a ChangeSubPool command is entered in the DSP. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_SUBPOOL_NUMBER
NEW_SUBPOOL_PASSWORD

ACD_GROUP_DN is the Primary ACD-DN of the group whose SUBPOOL number is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_SUBPOOL_NUMBER is the new SUBPOOL number of the ACD group to be used (range: 1 to 128).

NEW_SUBPOOL_PASSWORD is the password of the subpool to which the group is moved. (5 <= password <= 16 characters, A-Z, 0-9)

3.4.3.4.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeSubpool [13] IMPLICIT OCTET STRING,
                    -- Bytes0-4          : acd_group_dn
                    -- Byte 5            : acd_group_dn_count
                    -- Bytes6 -7         : new_subpool_number
                    -- Bytes8 -15        : new_subpool_password}
```

3.4.3.5 ChangePrioPro

This Load Management Request message provides information on the ACD group and the new priority promotion value. The message is sent from the DSP

to the Switch when a CHANGE PRIOPRO command is entered in the DSP. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_PRIOPRO

ACD_GROUP_DN is the Primary ACD-DN group whose PRIOPRO value is to be changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_PRIOPRO s the new priority promotion time in seconds of the ACD group (range: 0 to 255). A zero indicates priority promotion is disabled. Priority promotion provides the capability for a low priority call to be promoted to a higher priority for better service (answer time).

3.4.3.5.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangePrioPro [14] IMPLICIT OCTET STRING,
                        -- Bytes0-4        : acd_group_dn
                        -- Byte 5          : acd_group_dn_count
                        -- Byte 6          : new_priopro
                        -- Byte 7          : reserved}
```

3.4.3.6 ChangeMaxWait

This Load Management Request message provides information on the ACD group and the new MAXWAIT value. The message is sent from the DSP to the Switch when a CHANGE MAXWAIT command is entered in the DSP. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_MAXWAIT

ACD_GROUP_DN is the Primary ACD-DN of the group whose MAXWAIT value is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_MAXWAIT is the new maximum time in seconds that a call should have to wait in the Incoming Call Queue before being presented to an agent position to be answered (range: 0 to 1800).

3.4.3.6.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
```

{ChangeMaxWait[2] IMPLICIT OCTET STRING,
-- Bytes0-4 : acd_group_dn
-- Bytes5 : acd_group_dn_count
-- Bytes6-7 : new_maxwait}

3.4.3.7 ChangeWaitThreshold

This Load Management Request message provides information on the ACD group and the new Maximum Wait Threshold value. The message is sent from the DSP to the Switch when a ChangeWaitThreshold command is entered in the DSP. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_WAIT_THRESHOLD

ACD_GROUP_DN is the Primary ACD-DN of the group whose WAIT_THRESHOLD value is to be changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_WAIT_THRESHOLD is the new wait threshold maximum time a call at the head of the Incoming Call Queue can wait before new incoming calls are given network service (range 0 to 1800 seconds).

3.4.3.7.1 LoadMgmtRequest

LoadMgmtRequest ::= CHOICE
{ChangeWaitThreshold [21] IMPLICIT OCTET STRING,
-- Bytes0-4 : acd_group_dn
-- Byte 5 : acd_group_dn_count
-- Bytes6-7 : new_waitthreshold}

3.4.3.8 ChangeTmDelOvfl

This Load Management Request message provides information on the ACD group and the new Time Delay Overflow Threshold value. The message is sent from the DSP to the Switch when a CHANGE TMDELOVFL command is entered in the DSP. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_TMDELOVFL

ACD_GROUP_DN is the Primary ACD-DN of the group whose TMDELOVFL value is to be changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_TMDELOVFL is the new maximum time in seconds a call can be delayed in the Incoming Call Queue before being offered to another group (range: 0 to 1800).

3.4.3.8.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeTmDelOvfl [15] IMPLICIT OCTET STRING,
                    -- Bytes0-4        : acd_group_dn
                    -- Byte 5          : acd_group_dn_count
                    -- Bytes6-7        : new_tmdelofl}
```

3.4.3.9 ChangeOVLTYPE

This Load Management Request message provides information on the ACD group and the new OVFLTYPE value. The message is sent from the DSP to the Switch when a CHANGE OVFLTYPE command is entered in the DSP. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_OVFLTYPE
NEW_START

ACD_GROUP_DN is the Primary ACD-DN group whose OVFLTYPE value is to be changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_OVFLTYPE is the new OVFLTYPE value (range: 0 or 1):

0 = ALLPRIO calls of all priority are overflowed.

1 = PRI0ONLY, calls of priority 0 only are overflowed.

NEW_START is the new START value (range: 0 or 1) according to the following:

0 = P0ONLY, the overflow timer starts when the call reaches priority 0.

1 = IMMEDIATE, the overflow timer starts immediately when the call is queued.

3.4.3.9.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeOvflType [16] IMPLICIT OCTET STRING,
                    -- Bytes0-4        : acd_group_dn
                    -- Byte 5          : acd_group_dn_count
```

```
                -- Byte 6          : new_ofltype
                -- Byte 7          : new_start}
```

3.4.3.10 ChangeService

This Load Management Request message provides information on the ACD group and the new SERVICE value which controls the order of serving the call queues. The message is sent from the DSP to the Switch when a CHANGE SERVICE command is entered in the DSP. The messages contain the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_SERVICE

ACD_GROUP_DN is the Primary ACD-DN of the group whose SERVICE value is to be changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_SERVICE is the new SERVICE value (range: 0 to 2) according to the following:

0 = OVFLIN - Causes the outflow calls to be serviced first, followed by the incoming overflowed calls and the call queues within priority.

1 = P0FIRST - Causes the outflow calls to be serviced first, followed by the call queue, and the inflow queue within priority.

2 = OLDEST - Compares the physical and the logical queues and answers the call which has been queued for the longer time.

3.4.3.10.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeService [17] IMPLICIT OCTET STRING,
                -- Bytes0-4         : acd_group_dn
                -- Byte 5           : acd_group_dn_count
                -- Byte 6           : new_service
                -- Byte 7           : reserved}
```

3.4.3.11 ChangeMaxCqSize

This Load Management Request message provides information on the ACD group and the new Maximum physical Queue Size value. The message is sent from the DSP to the Switch when a CHANGE MAXCQSIZE command is entered in the DSP. The message contains the following fields.

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_MAXCQSIZE

ACD_GROUP_DN is the Primary ACD-DN of the group whose MAXCQSIZE value is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_MAXCQSIZE s the new maximum number of calls that can be queued in the Incoming Call Queue at any one point in time (range: 0 to 511).

3.4.3.11.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeMaxCqSize [3] IMPLICIT OCTET STRING,
                    -- Bytes0-4        : acd_group_dn
                    -- Byte 5          : acd_group_dn_count
                    -- Bytes6-7        : new_maxcqsize}
```

3.4.3.12 ChangeMaxVqSize

This Load Management Request message provides information on the ACD group and the new Maximum logical Queue Size value. The message is sent from the DSP to the Switch when a CHANGE MAXVQSIZE command is entered in the DSP. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_MAXVQSIZE

ACD_GROUP_DN is the Primary ACD-DN of the group whose MAXVQSIZE value is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_MAXVQSIZE is the new maximum number of logical calls that can be queued in the Overflow Out Queue (range: 0 to 511).

3.4.3.12.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeMaxVqSize [18] IMPLICIT OCTET STRING,
                    -- Bytes0-4        : acd_group_dn
                    -- Bytes5          : acd_group_dn_count
                    -- Bytes6-7        : new_maxvqsize}
```

3.4.3.13 ChangeQueueThreshold

This Load Management Request message provides information on the ACD group and the new maximum Queue Threshold value. The message is sent from the DSP to the Switch when a CHANGE QUEUE_THRESHOLD command is entered in the DSP. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_QUEUE_THRESHOLD

ACD_GROUP_DN is the Primary ACD-DN of the group whose QUEUE_THRESHOLD value is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_QUEUE_THRESHOLD is the new maximum number of calls which can be queued in the Incoming Call Queue (range: 0 to 511).

3.4.3.13.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeQueueThreshold [20] IMPLICIT OCTET STRING,
                    -- Bytes0-4        : acd_group_dn
                    -- Byte 5          : acd_group_dn_count
                    -- Bytes6-7        : new_queue_threshold}
```

3.4.3.14 ChangeACDDNPrio

This Load Management Request message provides information on the new priorities associated with a Primary or Supplementary ACD-DN of an ACD group. The message is sent from the DSP to the Switch when a CHANGE ACD_DN_PRIO command is entered in the DSP. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
CHANGED_ACD_DN
CHANGED_ACD_DN_COUNT
PRIMNARY_OR_SUPP
PRIORITY_ONE
PRIORITY_TWO

ACD_GROUP_DN is the Primary ACD-DN of the group whose ACD-DN priorities are being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

CHANGED_ACD_DN the ACD DN whose priority is being changed.

CHANGED_ACD_DN_COUNT specifies the number of digits in the ACD-DN being changed. The ACD-DN can be up to ten digits.

PRIMARY_OR_SUPP can either be a 0 or 1. If the ACD-DN is a Primary ACD-DN, this field will have a value of zero. If the ACD-DN is a Supplementary ACD-DN, this field will have a value of 1.

PRIORITY_ONE ranges from 0 to 3. If PRIMARY_OR_SUPP has a value of zero, this field contains the TRUNK priority that the ACD-DN is assigned. If PRIMARY_OR_SUPP has a value of 1, it contains the priority of the Supplementary ACD-DN.

PRIORITY_TWO ranges from 0 to 3. If PRIMARY_OR_SUPP has a value of zero, this field contains the TRUNK priority that the ACD-DN is assigned. If PRIMARY_OR_SUPP has a value of 1, this field is not used.

3.4.3.14.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeACDDNPrio [7] IMPLICIT OCTET STRING,
                        -- Bytes0-4        : acd_group_dn
                        -- Byte 5           : acd_group_dn_count
                        -- Bytes6-10        : changed_acd_dn
                        -- Byte 11          : changed_acd_dn_count
                        -- Byte 12          : primary_or_supp
                        -- Byte 13          : priority_one
                        -- Byte 14          : priority_two
                        -- Byte 15          : reserved}
```

3.4.3.15 ChangeAudioGroup

This Load Management Request message provides information on the new Audio Group to be used by the ACD group. The message is sent from the DSP to the Switch when a CHANGE AUDIO_GROUP command is entered in the DSP. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_AUDIO_GROUP

ACD_GROUP_DN is the Primary ACD-DN of the group whose Audio group is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_AUDIO_GROUP specifies the new audio group to be used by the ACD group (range: 1 to 512).

3.4.3.15.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeAudioGroup [8] IMPLICIT OCTET STRING,
                        -- Bytes0-4          : acd_group_dn
                        -- Byte 5            : acd_group_dn_count
                        -- Bytes6-7          : new_audio_group}
```

3.4.3.16 ChangeRANTH

This Load Management Request message provides information on the new recorded announcement threshold (RANTH) value used by the ACD group. The message is sent from the DSP to the Switch when a CHANGE RANTH command is entered in the DSP. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_RANTH

ACD_GROUP_DN is the Primary ACD-DN of the group whose RANTH value is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_RANTH specifies the new recorded announcement threshold time in seconds (0 or 6 to 60) to be used by the ACD group. A value of zero indicates that the call should receive the announcement immediately.

3.4.3.16.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeRanth [9] IMPLICIT OCTET STRING,
                        -- Bytes0-4          : acd_group_dn
                        -- Byte 5            : acd_group_dn_count
                        -- Byte 6            : new_ranth
                        -- Byte 7            : reserved}
```

3.4.3.17 ChangePWF

This Load Management Request message requests the Switch to input a new Preference Weighting Factor (PWF) value to be used by the ACD group in deciding to route calls to the Destination ACD group. The message is sent to the Switch when a CHANGE PWF command is entered in the DSP. The message contains the following fields:

SRC_ACD_GROUP_DN
SRC_ACD_GROUP_DN_COUNT

DEST_ACD_GROUP_DN
DEST_ACD_DN_GROUP_DN_COUNT
NEW_ACD_PWF

SRC_ACD_GROUP_DN is the Primary ACD-DN of the source group whose PWF value for routing calls through to the Destination ACD group is being changed.

SRC_ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The source group ACD-DN can be up to ten digits.

DEST_ACD_GROUP_DN is the ACD-DN of the destination group to be associated with the new PWF.

DEST_ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the destination ACD group. The ACD-DN can be up to ten digits.

NEW_ACD_PWF is the new Preference Weighting Factor of the destination ACD group (range: 0 to 32767). This value controls the source ACD group's preference for overflowing calls to the destination ACD group.

3.4.3.17.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangePWF [22] IMPLICIT OCTET STRING,
                    -- Bytes0-4        : src_acd_group_dn
                    -- Byte 5           : src_acd_group_dn_count
                    -- Bytes6-10        : dest_acd_group_dn
                    -- Byte 11          : dest_acd_group_dn_count
                    -- Bytes12-13       : new_acd_pwf}
```

3.4.3.18 ChangeRI

This Load Management Request message provides the ability to modify the Resource Index (RI) value of the destination ACD group if it does not support RI. The message is sent to the Switch when a CHANGE RI command is entered in the DSP. The message contains the following fields:

SRC_ACD_GROUP_DN
SRC_ACD_GROUP_DN_COUNT
DEST_ACD_GROUP_DN
DEST_ACD_GROUP_DN_COUNT
NEW_ACD_RI

SRC_ACD_GROUP_DN is the source Primary ACD-DN of the source group whose RI table is being changed.

SRC_ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the source ACD group. The ACD-DN can be up to ten digits.

DEST_ACD_GROUP_DN is the Primary ACD-DN of the destination group associated with the new RI value. This function is required to modify the RI values for switches that do not broadcast RI values. The DEST_ACD_GROUP is always a group residing on a non-DMS/SL-100 switch which does not support RI updates. RI changes are not allowed for DEST_ACD_GROUPS which reside on DMS/SL-100 switches.

DEST_ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the destination ACD group. The ACD-DN can be up to ten digits.

NEW_ACD_RI is the new Resource Index for the destination ACD group (range: 0 to 65535). This value is calculated on a per group basis and reflects the ACD group's ability to answer ACD calls.

3.4.3.18.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeRI [23] IMPLICIT OCTET STRING,
                    -- Bytes0-4        : src_acd_group_dn
                    -- Byte 5          : src_acd_group_dn_count
                    -- Bytes6-10       : dest_acd_group_dn
                    -- Byte 11         : dest_acd_group_dn_count
                    -- Bytes12-13      : new_acd_ri}
```

3.4.3.19 ChangeThRoute

This Load Management Request message provides information regarding the change of threshold Route (THROUTE) for an ACD group. The message is sent from the DSP to the Switch when a CHANGE THROUTE command is entered in the DSP. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_THROUTE_INDEX
NEW_THROUTE_TABLE

ACD_GROUP_DN is the Primary ACD-DN of the group whose threshold route is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_THROUTE_INDEX is the index corresponding to the table indicated in the following field (range: 0 to 1023).

NEW_THROUTE_TABLE The value in this field ranges from 0 to 7. Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167..

3.4.3.19.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeThRoute [4] IMPLICIT OCTET STRING,
                    -- Bytes0-4        : acd_group_dn
                    -- Byte 5           : acd_group_dn_count
                    -- Bytes6-7         : new_throute_index
                    -- Byte 8           : new_throute_table
                    -- Byte 9           : reserved}
```

3.4.3.20 ChangeNsRoute

This Load Management Request message provides information on the new night service route (NSROUTE) for an ACD group. The message is sent from the DSP to the Switch when a CHANGE NSROUTE command is entered in the DSP. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_NSROUTE_INDEX
NEW_NSROUTE_TABLE

ACD_GROUP_DN is the Primary ACD-DN of the group whose night service route is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_NSROUTE_INDEX is the route list entry in the given table (range: 0 to 1023).

NEW_NSROUTE_TABLE The value in this field ranges from 0 to 7. Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

3.4.3.20.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeNsRoute [5] IMPLICIT OCTET STRING,
                    -- Bytes0-4        : acd_group_dn
                    -- Byte 5           : acd_group_dn_count
                    -- Bytes6-7         : new_nsroute_index
                    -- Byte 8           : new_nsroute_table
                    -- Byte 9           : reserved}
```

3.4.3.21 ChangeACDDNName

This Load Management Request message requests a change of the Name for the ACD group. The message is sent from the DSP to the Switch when a

CHANGEACDDNName command is entered in the DSP. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
CHANGED_ACD_DN
CHANGED_ACD_DN_COUNT
NEW_ACD_DN_NAME

ACD_GROUP_DN is the Primary ACD-DN of the group whose name is to be changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

CHANGED_ACD_DN is the Primary DN within the ACD group to which the new name is being assigned.

CHANGED_ACD_DN_COUNT specifies the number of digits in the CHANGED_ACD_DN. There can be up to 10 digits.

NEW_ACD_DN_NAME is a 15 character string identifying the new ACD name associated with the ACD-DN. Where the name is less than 15 characters, the rest is padded with blanks.

3.4.3.21.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeACDDNName [11] IMPLICIT OCTET STRING,
                    -- Bytes0-4          : acd_group_dn
                    -- Byte 5             : acd_group_dn_count
                    -- Bytes6-10          : changed_acd_dn
                    -- Byte 11            : changed_acd_dn_count
                    -- Bytes 12-26        : new_acd_dn_name
                    -- Byte 27            : reserved}
```

3.4.3.22 ChangeACDDispDigs

This Load Management Request message requests a change to the number of digits being displayed to the agents in the ACD group. The message is sent from the DSP to the Switch when a ChangeACDDISPDIGS command is entered in the DSP. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_ACD_DISPDIGS

ACD_GROUP_DN is the Primary ACD-DN of the group whose DISPDIGS is to be changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_ACD_DISPDIGS specifies the number of digits to be displayed for an agent within the ACD group (range: 0 to 10).

3.4.3.22.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeACDDispDigs [12] IMPLICIT OCTET STRING,
                    -- Bytes0-4        : acd_group_dn
                    -- Byte 5           : acd_group_dn_count
                    -- Byte 6           : new_acd_dispdigs
                    -- Byte 7           : reserved}
```

3.4.3.23 ChangeMSQSThreshold

This Load Management Request message request s a change in the Multi-Stage Queue Status for an ACD group. The message is sent from the DSP to the Switch when a ChangeMSQSThreshold command is entered in the DSP. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
MSQS_T1
MSQS_T2
MSQS_T3

ACD_GROUP_DN is the Primary ACD-DN of the group whose MSQS threshold is to be changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

MSQS_T1 Specifies the 1st threshold of the MSQS option to be associated with the ACD group.

MSQS_T2 Specifies the 2nd threshold of the MSQS option to be associated with the ACD group.

MSQS_T3 Specifies the 3rd threshold of the MSQS option to be associated with the ACD group.

Table 3-8 MSQS Limits

	MSQS Type	BCS 31-33	BCS 34	BCS 35
MSQS_T1	WAIT	5 TO 2390	5 TO 2390	0, 5 TO 2390
MSQS_T1	CALLQ	1 TO 2398	1 TO 2398	0, 1 TO 2398
MSQS_T2	WAIT	10 TO 2395	T1 + 5	0, T1, T1 + 5
MSQS_T2	CALLQ	2 TO 2399	T1 + 1	0, T1, T1 + 1
MSQS_T3	WAIT	15 TO 2400	T2 + 5	0, T2, T2 + 5
MSQS_T3	CALLQ	3 TO 2400	T2 + 1	0, T2, T2 + 1

Note: The ChangeMSQSTYPE (Section 3.4.3.34 on page 196) and the ChangeMSQSThreshold (Section 3.4.3.23 on page 187) messages are linked. Consequently when either one is sent, by the DSP the other one should follow.

3.4.3.23.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeMSQSThreshold [10] IMPLICIT OCTET STRING,
            -- Bytes0-4          : acd_group_dn
            -- Byte 5            : acd_group_dn_count

            -- Byte 6-7          : msqs_t1
            -- Bytes8-9          : msqs_t2
            -- Bytes10-11        : msqs_t3}
```

3.4.3.24 ChangeEhOvfl

This Load Management Request message requests a change in the enhanced overflow route list for an ACD group. The message is sent from the DSP to the Switch when a CHANGE EHOVFL command is entered in the DSP. The message contains the following fields:

SRC_ACD_GROUP_DN
SRC_ACD_GROUP_DN_COUNT
NEW_EH_OVFL_GRP_ONE_DN
NEW_EH_OVFL_GRP_ONE_DN_COUNT
NEW_EH_OVFL_GRP_TWO_DN
NEW_EH_OVFL_GRP_TWO_DN_COUNT
NEW_EH_OVFL_GRP_THREE_DN
NEW_EH_OVFL_GRP_THREE_DN_COUNT
NEW_EH_OVFL_GRP_FOUR_DN
NEW_EH_OVFL_GRP_FOUR_DN_COUNT
NEW_EH_OVFL_NUM_GROUPS

SRC_ACD_GROUP_DN is the Primary ACD-DN of the group whose enhanced overflow routing is being changed.

SRC_ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the source ACD group. The ACD-DN can be up to ten digits.

NEW_EH_OVFL_GRP_ONE_DN is the Primary ACD-DN of the first ACD group in the enhanced overflow route list.

NEW_EH_OVFL_GRP_ONE_DN_COUNT specifies the number of digits in the ACD-DN of the first ACD group. The ACD-DN can be up to ten digits.

NEW_EH_OVFL_GRP_TWO_DN is the Primary ACD-DN of the second ACD group in the enhanced overflow route list.

NEW_EH_OVFL_GRP_TWO_DN_COUNT specifies the number of digits in the ACD-DN of the second ACD group two. The ACD-DN can be up to ten digits.

NEW_EH_OVFL_GRP_THREE_DN is the Primary ACD-DN of the third ACD group in the enhanced overflow route list.

NEW_EH_OVFL_GRP_THREE_DN_COUNT specifies the number of digits in the ACD-DN of the third ACD group. The ACD-DN can be up to ten digits.

NEW_EH_OVFL_GRP_FOUR_DN is the Primary ACD-DN of the fourth ACD group in the enhanced overflow route list.

NEW_EH_OVFL_GRP_FOUR_DN_COUNT specifies the number of digits in the ACD-DN of the fourth ACD group The ACD-DN can be up to ten digits.

NEW_EH_OVLF_NUM_GROUPS specifies the number of ACD groups in the enhanced overflow list for the particular ACD group specified in the

SRC_ACD_GROUP_DN field. Up to four ACD groups can be specified as overflow groups for a given SRC_ACD_GROUP_DN. All groups must be within the same Switch. If there are no ACD groups specified, the value of this field is zero.

3.4.3.24.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeEhOvfl [6] IMPLICIT OCTET STRING,
            -- Bytes0-4          : src_acd_group_dn
            -- Byte 5            : src_acd_group_dn_count
            -- Bytes6-10         : new_eh_ovfl_grp_one_dn
            -- Byte 11           : new_eh_ovfl_grp_one_dn_count
            -- Bytes12-16        : new_eh_ovfl_grp_two_dn
            -- Byte 17           : new_eh_ovfl_grp_two_dn_count
            -- Bytes18-22        : new_eh_ovfl_grp_three_dn
            -- Byte 23           : new_eh_ovfl_grp_three_dn_co
            -- Bytes24-28        : new_eh_ovfl_grp_four_dn
            -- Byte 29           : new_eh_ovfl_grp_four_dn_count
            -- Byte 30           : new_eh_ovfl_num_groups
            -- Byte 31           : reserved}
```

3.4.3.25 ChangeCIFRoute

This Load Management Request message provides information on the new Controlled Interflow Route (CIFROUTE) for an ACD group. The message is sent from the DSP to the Switch when a CHANGE CIFROUTE command is entered on the DSP. The messages contain the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_CIFROUTE_INDEX
NEW_CIFROUTE_TABLE

ACD_GROUP_DN is the Primary ACD-DN of the group whose controlled interflow route is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the ACD_GROUP_DN. The ACD-DN can be up to ten digits.

NEW_CIFROUTE_INDEX specifies the route list entry in the given routing table (range: 0 to 1023).

NEW_CIFROUTE_TABLE specifies the routing table that is used for the new controlled interflow route of the ACD group (range: 0 to 7). Please refer to Section 3.4.2.3.10, “RoutingTableIdentifier,” on page 167.

3.4.3.25.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeCIFRoute [19] IMPLICIT OCTET STRING,

            -- Bytes0-4          : acd_group_dn

            -- Byte 5            : acd_group_dn_count

            -- Bytes6-7          : new_cifroute_index

            -- Byte 8            : new_cifroute_table

            -- Byte 9            : reserved}
```

3.4.3.26 ChangeNSAUDIOGroup

This Load Management Request message provides information about the new audio group requested for night service announcement by the ACD group. It is sent by the DSP when NSAUDIO group is to be changed from the DSP. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_AUDIO_GROUP

ACD_GROUP_DN is the Primary ACD-DN of the group whose NSAUDIO group is being changed.

ACD_GROUP_NUM_DIGS specifies the number of digits in the Primary ACD-DN of the group. The ACD-DN can be up to ten digits.

NEW_AUDIO_GROUP is the new audio group used to provide night service announcement to callers prior to rerouting the call to the night service route (range: 1 to 512).

3.4.3.26.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeNSAudio [25] |IMPLICIT OCTET STRING,
            -- Bytes0-4          : acd_group_dn
            -- Byte5             : acd_group_dn_count
            -- Bytes6-7          : new_audio_group}
```

3.4.3.27 ChangeCTQSIZE

This Load Management Request message provides information about the new Call Transfer Queue Size (CTQSIZE) requested for this ACD group. It is sent by the DSP when CTQSIZE is to be changed from the DSP. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_CTQSIZE

ACD_GROUP_DN is the Primary ACD-DN of the group whose CTQSIZE is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the group. The ACD-DN can be up to ten digits.

NEW_CTQSIZE indicates the maximum number of calls that can be transferred directly to agents in this group (range: 0-42).

Note: In this release Personal Agent Queue (PAQ) is introduced. It is a partitioning of the Call Transfer Agent Queue (CTQ) on a per agent basis and it represents the total of calls within the CTQ a particular agent can have at any one time. At present the information on PAQ size can be only changed through datafill by the ACD Administrator at the switch.

3.4.3.27.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeCTQSize [26] IMPLICIT OCTET STRING,
            -- Bytes0-4          : acd_group_dn
            -- Byte5             : acd_group_dn_count
            -- Bytes6-7          : new_ctqsize}
```

3.4.3.28 ChangeBestGrp

This Load Management Request message provides information regarding whether or not the source group is to be considered when determining the BEST target group for time overflow. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
SRC_BEST_GRP

ACD_GROUP_DN is the Primary ACD-DN of the ACD group associated with this request.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the new ACD group. The ACD-DN can be up to ten digits.

SRC_BEST_GRP indicates if the source group should be considered when determining the BEST target group for time overflow calls.

0 = source group is not considered

1 = source group is considered

3.4.3.28.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeCTQSize [26] IMPLICIT OCTET STRING,
            -- Bytes0-4          : acd_group_dn
            -- Byte5             : acd_group_dn_count
            -- Bytes6-7          : new_ctqsize}
```

3.4.3.29 ChangeSrvRate

This Load Management Request message provides information on the call service time requested for this ACD group. The service time is used when calculating the Resource Index (RI) of this ACD group. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_SRVRATE

ACD_GROUP_DN is the Primary ACD-DN of the ACD group associated with this service rate.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the new ACD group. The ACD-DN can be up to ten digits.

NEW_SRVRATE is the average service rate (call handling time) for calls to this group (range 0 to 600)

3.4.3.29.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeSrvRate [28] IMPLICIT OCTET STRING,
            -- Bytes0-4          : acd_group_dn
            -- Byte5             : acd_group_dn_count
            -- Bytes6-7          : new_srvrate}
```

3.4.3.30 ChangeNumIdle

This Load Management Request message provides information on the 'number of idle agents' weighting factor to be used when calculating the Resource Index (RI) of this group. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_NUMIDLE

ACD_GROUP_DN is the Primary ACD-DN of the ACD group associated with this factor.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the new ACD group. The ACD-DN can be up to ten digits.

NEW_NUMIDLE is the value of the 'number of idle agents' weighting factor. A higher value indicates more preference (range 0 to 255)

3.4.3.30.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeNumIdle [29] IMPLICIT OCTET STRING,
            -- Bytes0-4          : acd_group_dn
            -- Byte5             : acd_group_dn_count
            -- Bytes6-7          : new_numidle}
```

3.4.3.31 ChangeTimeIdle

This Load Management Request message provides information on the 'most idle agent' weighting factor to be used when calculating the Resource Index (RI) of this group. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_TIMEIDLE

ACD_GROUP_DN is the Primary ACD-DN of the ACD group associated with this factor.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the new ACD group. The ACD-DN can be up to ten digits.

NEW_TIMEIDLE is the value of the 'most idle agent' weighting factor. A higher value indicates more preference (range 0 to 600)

3.4.3.31.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeTimeIdle [30] IMPLICIT OCTET STRING,
            -- Bytes0-4          : acd_group_dn
            -- Byte5             : acd_group_dn_count
            -- Bytes6-7          : new_timeidle}
```

3.4.3.32 ChangeDefLOB

This Load Management Request message provides information on new default Line of Business requested for this group. The message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_DEFLOB

ACD_GROUP_DN is the Primary ACD-DN of the ACD group associated with this request.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the new ACD group. The ACD-DN can be up to ten digits.

NEW_DEFLOB is the default LOB. The first 3 nibbles are the 3 digit LOB, and the 4th nibble is the length.

3.4.3.32.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeDefLob [31] IMPLICIT OCTET STRING,
                -- Bytes0-4          : acd_group_dn
                -- Byte5             : acd_group_dn_count
                -- Bytes6-7          : new_def_lob_code}
```

3.4.3.33 ChangeWRPTIME

This Load Management Request message provides information on a new Variable Wrap-up Time associated with either the ACD Group, or an agent login id. It is sent when the default WRPTIME associated with an ACD group, or the WRPTIME associated with an agent login id is to be changed from the DSP. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
AGENT_LOGINID
NEW_WRPTIME

ACD_GROUP_DN is the Primary ACD-DN of the group whose default WRPTIME is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

AGENT_LOGINID is the agent login id associated with the NEW_WRPTIME. If the NEW_WRPTIME is associated with the ACD group, this field is set to zero.

NEW_WRPTIME is the value of the new Variable Wrap-up time (range: 1 to 900 seconds). This is the amount of time from the time an ACD call is completed and a new ACD call is presented to the agent.

3.4.3.33.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
{ChangeWRPTIME [32] IMPLICIT OCTET STRING,
                -- Bytes0-4          : acd_group_dn
                -- Byte 5            : acd_group_dn_count
                -- Bytes6-7          : agent_loginid
                -- Bytes8-9          : new_wrptime}
```

3.4.3.34 ChangeMSQSTYPE

This Load Management Request message provides information on whether the MSQS ranges are associated with CALL QUEUE size or CALL WAIT time. It is sent by the DSP when MSQTYPE of an ACD group is to be changed from the DSP. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_MSQSTYPE

ACD_GROUP_DN is the Primary ACD-DN of the group whose MSQSTYPE is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_MSQSTYPE indicates if the MSQS Thresholds are based on CALL QUEUE size (value = 0) or CALL WAIT time (value = 1).

Note: The ChangeMSQSTYPE (Section 3.4.3.34 on page 196) and the ChangeMSQSThreshold (Section 3.4.3.23 on page 187) messages are linked. Consequently when either one is sent, by the DSP the other one should follow.

3.4.3.34.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeMSQSType [33] IMPLICIT OCTET STRING,
            -- Bytes0-4          : acd_group_dn
            -- Byte 5            : acd_group_dn_count
            -- Byte 6            : new_msqs_type
            -- Byte 7            : reserved}
```

3.4.3.35 ChangeTMDTHRTE

This Load Management Request message provides information on the Time Delay Threshold Route (TMDTHRTE) associated with the ACD group. This route is used for rerouting Time Delay Overflow calls which have remained unanswered for a designated time. This message is sent by the DSP when TMDTHRTE of an ACD group is to be changed from the DSP. It contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_TMDTHRTE_INDEX
NEW_TMDTHRTE_TABLE

ACD_GROUP_DN is the Primary ACD-DN of the group whose Time Delay Threshold Route is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_TMDTHRTE_INDEX specifies the route entry in the given route table (range 0-1023).

NEW_TMDTHRTE_TABLE specifies the route table used for Time Delay Threshold Routing (range: 0 to 7). Please refer to Section 3.4.2.3.10, "RoutingTableIdentifier," on page 167.

3.4.3.35.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeTMDTHRTE [34] IMPLICIT OCTET STRING,
            -- Bytes0-4          : acd_group_dn
            -- Byte 5            : acd_group_dn_count
            -- Bytes6-7          : new_tmdthrte_index
            -- Byte 8            : new_tmdthrte_table
            -- Byte 9            : reserved}
```

3.4.3.36 ChangeTMDTHTIME

This Load Management Request message provides information on the Time Delay Threshold Time (TMDTHTIME) associated with the ACD group. It is sent by the DSP when TMDTHTIME of an ACD group is to be changed from the DSP. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_TMDTHTIME

ACD_GROUP_DN is the Primary ACD-DN of the group whose Time Delay Threshold Time is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_TMDTHTIME is the maximum amount of time in seconds a Time Delay Overflowed call will remain enqueued before being rerouted to the Time Delay Threshold Route (TMDTHRTE) (range: 0 to 1800).

3.4.3.36.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeTMDTHTIME [35] IMPLICIT OCTET STRING,
            -- Bytes0-4          : acd_group_dn
            -- Byte 5            : acd_group_dn_count
            -- Bytes6-7          : new_tmdthtime}
```

3.4.3.37 ChangeFIAUDIOGroup

This Load Management Request message sent by DSP provides information on the new Audio group associated with the ACD group to be used to give Forced Incoming Announcements. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_FIAUDIO_GROUP

ACD_GROUP_DN is the Primary ACD-DN of the group whose FIAUDIO group is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the Primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_FIAUDIO_GROUP specifies the new audio group to be used to give Forced Incoming Announcements to new incoming ACD calls (range: 1 to 512).

3.4.3.37.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeFIAUDIOGroup [36] IMPLICIT OCTET STRING,
            -- Bytes0-4          : acd_group_dn
            -- Byte 5            : acd_group_dn_count
            -- Bytes6-7          : new_fiaudio_group}
```

3.4.3.38 ChangeFOAUDIOGroup

This Load Management Request message sent by DSP provides information on the new Audio group associated with the ACD group to be used to give Forced Overflow Announcements. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_FOAUDIO_GROUP

ACD_GROUP_DN is the Primary ACD-DN of the group whose FOAUDIO group is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_FOAUDIO_GROUP specifies the new audio group to be used to give Forced Overflow Announcements for deflected ACD calls. (range: 1 to 512).

3.4.3.38.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeFOAUDIOGroup [37] IMPLICIT OCTET STRING,
```

-- Bytes0-4 : acd_group_dn
-- Byte 5 : acd_group_dn_count
-- Bytes6-7 : new_foaudio_group}

3.4.3.39 ChangeORGANN

This Load Management Request message sent by DSP provides new information on the who should provide announcements for calls overflowed to this group. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
NEW_ORGANN

ACD_GROUP_DN is the Primary ACD-DN of the group whose ORGANN value is being changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

NEW_ORGANN indicates if Forced Incoming announcements and delay announcements for calls overflowing into this group are to be given from the original group (value = 1) or from this group (value = 0)

3.4.3.39.1 LoadMgmtRequest

LoadMgmtRequest ::= CHOICE
{ChangeORGANN [38] IMPLICIT OCTET STRING,
-- Bytes0-4 : acd_group_dn
-- Byte 5 : acd_group_dn_count
-- Byte 6 : new_organn
-- Byte 7 : reserved}

3.4.3.40 ChangeACTIVATE

This Load Management Request message enhances the LOADMGMT CHANGE command with a new subcommand to activate/deactivate Login ID's within the appropriate partition in Table ACDENLOG. This message contains the following fields:

ACD_GROUP_DN
ACD_GROUP_DN_COUNT
AGENT_LOGINID_LOW
AGENT_LOGINID_HIGH
ACTIVATE_STATE

ACD_GROUP_DN is the Primary ACD-DN of the ACD group datafilled in the MIS-GROUP option for the login ids whose ACTIVATE state are to be changed.

ACD_GROUP_DN_COUNT specifies the number of digits in the primary ACD-DN of the ACD group. The ACD-DN can be up to ten digits.

AGENT_LOGINID_LOW is the lowest numbered login id in the range of login ids which are to be activated/deactivated (range: 1 to 9999).

AGENT_LOGINID_HIGH is the highest numbered login id in the range of login ids which are to be activated/deactivated (range: 1 to 9999).

ACTIVATE_STATE determines whether the login ids specified are to be activated or deactivated. A value of zero indicates deactivation, while a value of one indicates activation.

3.4.3.40.1 LoadMgmtRequest

```
LoadMgmtRequest ::= CHOICE
    {ChangeACTIVATE [39] IMPLICIT OCTET STRING
            -- Bytes0-4          : acd_group_dn
            -- Byte 5            : acd_group_dn_count
            -- Byte 6-7          : agent_loginid_low
            -- Byte 8-9          : agent_loginid_high
            -- Byte 10           : activate_state}
```

4.0 Error Code Information

4.1 Introduction

Error codes sent from the switch to the DSP are mapped into a standard template. The template has three fields:

1 Type

2 Reason

3 Parameter

TYPE The type of the error is encoded as an NOP integer in the range 64 to 67 (decimal).

REASON The error reason is a refinement of the type and provides the actual reason the error occurred. The error reason is encoded as an NOP integer in the range zero to 127 (decimal).

PARAMETER The error parameter is a qualifier of the error reason and may provide additional information on interpreting the error reason. There is no relationship between an RO parameter and an error parameter. The error parameter is encoded as an NOP integer in the range -32767 to 32766. If the parameter is not used for the error reason specified in the ReturnError, then the parameter field will be set to zero.

4.2 Invalid Argument Errors

The RO parameters received from the DSP are checked before any other checks are performed. Errors detected at this stage stop further processing of the RO. The error reasons and their related parameters are outlined below:

Table 4-9 Invalid Argument Errors

Error	Reason
0 = nomoreinformation	The default error reason.
1 = useridpasswordwrong	The nosLogon RO received did not contain a valid userid and pass word combination.
2 = parametermissing	An expected parameter was not found in the RO. The error parameter contains the parameter index (where parameters are numbered from 0 to n).

Table 4-9 Invalid Argument Errors

Error	Reason
	—continued—
3 = valuerangeerror	The parameter is of the correct type, but out of range. For strings, this means the string was too long or too short. The error parameter contains the parameter index.
6 = wrongparametercount	The number of parameters contained in the RO differed from the expected number of parameters. The error parameter contains the expected number of parameters.
7 = typerangeerror	The parameter type was not the expected one (e.g. character string instead of integer). The error parameter contains the RO parameter index.
8 = nullrangeerror	A NULL parameter is not allowed for the parameter. The error reason contains the parameter index.
15 = poolpasswordwrong	The dspAssociatePool RO received did not contain a valid PoolName and Password combination.
16 = poolnameinvalid	The dspAssociatePool RO received did not contain a valid PoolName.
17 = subpoolnameinvalid	The dspRequestLOADMGMT RO received did not contain a valid SubpoolName.
18 = subpoolpasswordinvalid	The dspRequestLOADMGMT RO received did not contain a valid Subpool Name and Subpool Password combination.
23 = invalidpoolprotocol	An invalid ACD pool protocol was used in conjunction with the received RO.
31= ACD_incomplete_range_processing	RO change activate command has been issued from the DSP for a range of login IDs and only a portion of the ID's in the range could be changed.
	—end—

4.3 Operation Sequence Errors

This error type is used to report errors that occur when ROs are received in an incorrect order. This can be caused by problems at either the switch or DSP end. If the problems persist, then a nosLogout RO should be performed since this RO is always processed by the switch. The error reasons follow

Table 4-10 Operation Sequence Errors

Error	Reason
0 = nomoreinformation	The default error reason.
1 = noslogonnotcompleted	The RO is in error since a logon has not yet been received.
2 = duplicatelogon	The nosLogon RO is in error since an RO of this type is already in effect.
3 = logoutwithoutlogon	The nosLogout RO is in error since a nosLogon RO was never received.
	—continued—

Table 4-10 Operation Sequence Errors

Error	Reason
—continued—	
12 = wrongACDMISstate	The RO is in error because the ACD MIS Data Stream application is not in the correct state to execute the RO.
13 = poolpreviouslyassociated	The dspAssociatePool RO is in error since the pool specified has already been associated with an other SVC.
—end—	

4.4 Application Resource Shortage Errors

This error type relates to problems encountered with resource utilization on the switch. The error reasons are:

Table 4-11 Application Resource Shortage Errors

Error	Reason
0 = nomoreinformation	The default error reason.
2 = maxlogonsexceeded	Further logons will be rejected. The error parameter contains the maximum number of logons simultaneously allowed.
3 = toomanyrosoutstanding	The number of unprocessed ROs exceeds the limit defined in the error parameter. This condition can arise due to flow control problems or RO processing delays.
5 = nobuffersavailable	The ACD MIS application cannot allocate buffers for the ACD MIS ROs.

4.5 System Problem Errors

This error type encompasses all error reasons that can occur while processing an RO. The error reasons are:

Table 4-12 System Problem Errors

Error	Reason
10 = nomoreinformation	The default error reason.
46 = dumpinprogress	This indicates that a DMS image is currently being taken and all dspRequestLOADMGMT ROs will be rejected.
47 = rmanprocnotcreated	This indicates that for some reason the remote Load Mgmt process was not created.

5.0 Remote Operation Examples

5.1 Introduction

This chapter contains encoding examples for remote operations in Section 5.3.

> Note: Unless otherwise specified, all numbers in these examples are hexadecimal.

5.2 Encoding Overview

The 'data element' is a key concept in X.409 notation. Section 3 of CCITT Recommendation X.409 provides a detailed description of data elements. A brief overview of data elements is given below.

A data element consists of:

- an identifier part,
- a length part, and
- a contents part.

The identifier part of a data element consists of:

- a Class part,
- a Form part, and
- an Id code.

The choices for the Class of an identifier are:

- Universal
- Application Wide
- Context specific
- Private use.

The choices for the Form of an identifier are:

- primitive, i.e., contents are atomic
- constructor, i.e., contents are defined by other data elements

The Id code allows multiple identifiers with the same class Id code and form to be defined. The following illustrates the usage of the identifier part:

- [APPLICATION 10]

This denotes an identifier whose class is Application wide and whose Id code is 10. The definition of the content part for the data element determines the form of this identifier:

- [30]

This denotes an identifier whose class is Context specific and whose Id code is 30. The form is dependent on the associated content part.

The assignment of identifiers in Universal class is controlled by the CCITT. Application wide and Context specific class identifiers will be assigned to meet ACD Management Information System requirements. Private identifiers are not used.

The length part of a data element gives the length of the contents part in bytes. (X.409 allows for an indefinite length format where the contents part of a data element contains a unique element to indicate the end of the contents part.

5.2.1 Data Element Example

Universal identifiers assigned in X.409 include:

- BOOLEAN (BOL)
- INTEGER (INT)
- OCTET STRING (OSTR)
- NULL

A data element of type INTEGER with a decimal value of '127' would be encoded as:

INTEGER	Length	Contents
02	01	01111111(Binary)

The hex sequence sent to represent this data element is 02017F

A data element of type IA5STRING with a value of 'ABCDE' would be encoded as:

IA5STRING	Length	Contents
16	05	4142434445

The hex sequence sent to represent this data element is 16054142434445

5.3 ACD-MIS RO Encoding Detailed Description

The following is an explanation of how encoding is performed for the Invoke part of a Remote Operation. The dspQueryDateAndTod RO is used as the example.

An Invoke may be thought of as a 'message', with a predefined structure and purpose. The OPDU type, in this case an Invoke, is flagged by the value 'A1' in the first byte. The next byte contains the number of bytes contained in the message, in this example 'OA'. The next byte indicates that the information to follow is a sequence, or list, of discrete items. The next byte indicates the number of bytes in the sequence (excluding this byte), in this case '08'. The next group of bytes contains the items that make up the sequence. The first byte of each item identifies the type of data contained in the item. The next byte contains the length of the data. The remaining byte(s) in each item make up the actual data. In this example, the sequence contains three items; the first two items are integers (indicated by the value '02') and the third item is NULL (indicated by '05').

The structure of this OPDU is formally defined as follows. Every OPDU defined for the ACD Management Information System protocol uses this basic structure.

Encoding Example:

OPDU type:	Invoke
InvokeID:	4
Operation:	DSP QUERY DATE and TOD.
RO string sent:	A1 0A 30 09 02 01 04 02 01 04 05 00
	A

CONTENTS OF A:

OPDU Type:	A1	--Invoke
OPDU Length	0A	--Number of bytes in message
Data Type:	30	--Type of information to follow (Sequence or list of items)
Data Length:	09	--Number of bytes in Sequence (Excluding this byte)

Data Type	Data Length	Contents	Comments
02	01	04	Invoke Id
02	01	04	Op=Query DateandTOD
05	00		NULL

In the above example the NULL field is optional and it is provided for illustration purposes.

5.4 ACD-MIS RO Encoding Examples

5.4.1 dspRequestInit

5.4.1.1 Invoke

OPDU Type: Invoke
OPDU Length: Number of bytes in message
InvokeID: 2
Operation: DSPREQUESTINIT
RO String Sent: A1 0A 30 09 02 01 02 02 01 02 05 00
A

CONTENTS OF A:

OPDU Type:	A1	--Invoke
OPDU Length:	0A	--Number of bytes in message
Data Type:	30	--Sequence
Data Length:	09	--Number of bytes in Sequence (Excluding this byte)

Data Type	Data Length	Contents	Comments
02 (INT)	01	02	Invoke Id
02 (INT)	01	02	Op=Request Init
05 (NULL)	00		NULL

5.4.1.2 Return Result

OPDU Type: Return Result
Return Error ID: 2
Operation: DSPREQUESTINIT
RO String Sent: A2 07 30 05 02 01 02 05 00
A

CONTENTS OF A:

OPDU Type:	A2	--Result
OPDU Length	07	--Number of bytes in message
Data Type:	30	--Sequence
Data Length	05	--Number of bytes in Sequence (Excluding this byte)

Data Type	Data Length	Contents	Comments
02 (INT)	01	02	Invoke Id
05 (NULL)	00		NULL

5.4.1.3 ReturnError

This illustrates an operationSequence Problem:

OPDU type: Return Error
Return Error ID: 2
Operation: DSPREQUESTINIT
RO String Sent: A3 10 30 0E 02 01 02 02 01 41 30 07 02 01 00 02 01 00
A

CONTENTS OF A:

OPDU Type	A3	--ERROR
OPDU Length	10	--Number of bytes in message
Data Type	30	--Sequence
Data Length	0E	--Number of bytes in Sequence (Excluding this byte)

Data Type	Data Length	Contents	Comments
02 (INT)	01	02	Invoke Id
02 (INT)	01	41	error=OpSequence Problem
30 (SEQ)	07		
02 (INT)	01	00	Reason Code (unknown)
02 (INT)	01	00	Parameter (none)

5.4.2 dspQueryDateAndTod

5.4.2.1 Invoke

OPDU type: Invoke
InvokeID: 1
Operation: DSPQUERYDATEANDTOD
RO String Sent: A1 0A 30 09 02 01 01 02 01 04 05 00
A

CONTENTS OF A:

OPDU Type:	A1	--Invoke
OPDU Length:	0A	--Number of bytes in message
OPDU Type	30	--Sequence
Data Length:	09	--Number of bytes in Sequence (Excluding this byte)

Data Type	Data Length	Contents	Comments
02 (INT)	01	01	Invoke Id
02 (INT)	01	04	Op=QueryDateandTod
05 (NULL)	00		NULL

5.4.2.2 ReturnResult

OPDU Type: Return Result
Return Result ID: 1
Operation: DSPQUERYDATEANDTOD
RO String Sent: A2 0F 30 0D 02 01 01 30 09 04 07 13 57 03 1B 0E 2A04
A

CONTENTS OF A:

OPDU Type:	A2	--Result
OPDU Length:	0F	--Number of bytes in message
Data Type:	30	--Sequence
Data Length:	0D	--Number of bytes in Sequence (Excluding this byte)

Data Type	Data Length	Contents	Comments
02 (INT)	01	01	Invoke Id
30 (SEQ)	09		date: 87/03/27 time: 14:42:04
04 (OSTR)	07	1357031B0E2A04	

5.4.2.3 ReturnError

This illustrates a system Problem:

OPDU type: Error
Error ID: 1
Operation: DSPQUERYDATEANDTOD
RO String Sent: A3 10 30 0E 02 01 01 02 01 43 30 07 02 01 0A 02 01 00
A

CONTENTS OF A:

OPDU Type:	A3	--Error
OPDU Length:	10	--Number of bytes in message
Data Type	30	--Sequence
Data Length:	0E	--Number of bytes in Sequence (Excluding this byte)

Data Type	Data Length	Contents	Comments
02 (INT)	01	01	Invoke Id
02 (INT)	01	43	error=system problem
30 (SEQ)	07		
02 (INT)	01	0A	Reason code (unknown)
02 (INT)	01	00	Parameter (none)

5.4.3 SwitchSendACDGroupData

OPDU type: Invoke

InvokeID: 7
Operation: SWITCH SENDACDGROUPDATA
RO String Sent: A1 81 A0 30 81 9D 02 01 07 02 01 0C 04 81 94

A

00 00 00 00 00 06 16 73 22 55 05 0A 41 43 49 44 42 4C 55 45
20 20 20 20 20 20 20 20 01 00 3C 00 05 00 08 07 0A 01 01 00
0A 00 0A 00 05 00 0A00 00 00 0A 00 00 00 02 00 38 00 00 00
38 00 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 FF00 00
00 00 00 00 FF 01 FF 01 FF FF FF 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00
00 00 00 00 00 00 01 00 05 00 01 00 55 35 00 FF FF FF FF FF
FF FF FF 00 00 00 00 00

B

CONTENTS OF A:

OPDU TYPE:	A1	--Invoke
OPDU Length:	(81) A0	--Number of bytes in message
Data Type:	30	--Sequence
Data Length: (excluding this byte)	(81) 9D	--Number of bytes in Sequence

Data Type	Data Length	Contents	Comments
02 (INT)	01	07	Invoke Id
02 (INT)	01	0C	OP=SendACDGroupData
04 (OSTR)	(81)94		ACD Group Data

(81) indicates that the length is of type long integer.

Assume the following group data:

CONTENTS OF B (in decimal):

node_id	000000
node_id_dn_count	06
acd_group	6137225550
acd_dn_num_digs	10
group_clli	ACIDBLUE
acd_config	Networked
trunk_priority	0
maxwait	60
wait_threshold	05
tmdelovfl	1800
pripro	10
ovfltype	PRI0ONLY
start	IMMEDIAT
service	OVFLIN
maxcqsize	10

maxvqsize	10
queue_threshold	05
group_pwf	10
group_ri	00
ranth	10
line_priority	0
subpool_number	0
audio_group	AUDIO7
throute_index	56
throute_table	OFRT
nsroute_table	OFRT
nsroute_index	56
acd_dn_name	BLANKS
acd_dispdigs	ACD Name/Number Display option not subscribed
msqs_t1	FF (MSQS option not subscribed)
msqs_t2	FF (MSQS option not subscribed)
msqs_t3	FF (MSQS option not subscribed)
maxcqlmt	256
maxvqlmt	256
cifroute_index	FFFF (option not subscribed)
cifroute_table	FF (option not subscribed)
eh_ovfl_num_groups	0 (No ACD groups specified)
eh_ovfl_group_one	0000000000
eh_ovfl_group_one_dn_count	10
eh_ovfl_group_two	0000000000
eh_ovfl_group_two_dn_count	10
eh_ovfl_group_three	0000000000
eh_ovfl_group_three_dn_count	10
eh_ovfl_group_four	0000000000
eh_ovfl_group_four_dn_count	10
ns_audio_group	Option Not Subscribed
ctqsize	Call Transfer option not assigned to Group
vfg_count	00
vfg_index_one	0000
vfg_index_two	0000
vfg_index_three	0000
srvrate	01
numidle	05
timeidle	01
dft_lob_code	3555 (3 = Number of digits, 555 = code)
src_best_grp	00 (Source Group not considered)
msqs_type	FF (Option not Subscribed)
dwrptime	FFFF (Option not Subscribed)
tmdthtime	FFFF (Option not Subscribed)
tmdthrte_index	FFFF (Option not Subscribed)
tmdthrte_table	FF (Option not Subscribed)
organn	00

fiaudio_group	0000	(No Announcement)
foaudio_group	0000	(No Announcement)

5.4.4 SwitchSendAgentPosData

OPDU type: Invoke
InvokeID: 25
Operation: SWITCH SENDAGENTPOSDATA
RO String Sent: A1 1E 30 10 02 01 19 02 01 0E 04 14
A

00 00 00 00 00 06 16 73 22 11 12 0A 9E 1B 61 1E 00 00 FF FF
B

CONTENTS OF A:

OPDU Type:	A1	--Invoke
OPDU Length:	1E	--Number of bytes in message
Data Type:	30	--Sequence
Data Length:	10	--Number of bytes in Sequence (excluding this byte)

Data Type	Data Length	Contents	Comments
02 (INT)	01	19	Invoke Id
02 (INT)	01	0E	Op=SendAgentPosData
04 (OSTR)	14		Agent Position Data

Assume the following position data

Contents of B (in decimal):

node_id	000000
node_id_dn_count	06
position_group_number	6137221121
position_group_number_dn_co	10
position_supv_id	7070
position_agposnid	7777
position_loginid	not logged in
position_wrptime	not subscribed

5.4.5 SwitchSendEventData

5.4.5.1 Call Answered

OPDU Type: Invoke
InvokeID: 3
Operation: SWITCH SENDEVENT
RO String Sent: A1 34 30 32 02 01 03 02 01 10 81 2A
A

16 73 22 11 11 0A 16 73 22 11 11 0A 00 00 00 00 0F 27 5E 22
00 00 0F 2F 05 00 00 00 00 00 16 73 22 11 11 0A 00 00 00 00 00 00
B

CONTENTS OF A:

OPDU Type:	A1	--Invoke
OPDU Length:	34	--Number of bytes in message
Data Type:	30	--Sequence
Data Length:	32	--Number of bytes in Sequence (excluding this byte)

Data Type	Data Length	Contents	Comments
02 (INT)	01	03	Invoke Id
02 (INT)	01	10	Op=SendEvent
81 (OSTR)	2A		Call Answered

Assume the following call answered event data:

CONTENTS OF B (in decimal):

call_answered_sgrp	6137221111
call_answered_sgrp_dn_count	10
call_answered_dgrp	6137221111
call_answered_dgrp_dn_count	10
call_answered_numicq_p	00
call_answered_numicq_l	00
call_answered_agposnid	9999
call_answered_loginid	8798
call_answered_delay	0
call_answered_tod	15:47:05
call_answered_cstatus	0
current_p_callq_wait_time	0
current_l_callq_wait_time	0
call_answered_acd_dn	6137221111
call_answered_acd_dn_count	10
call_answered_calling_number	0
call_answered_calling_number0	

5.4.5.2 Call Abandoned

OPDU type: Invoke
InvokeID: 5
Operation: SWITCH SENDEVENT
RO String Sent: A1 30 30 2E 02 01 05 02 01 10 83 26
A

16 73 22 11 11 0A 16 73 22 11 11 0A 11 08 28 00 0A 00 00 00
00 00 00 00 00 00 16 73 22 11 11 0A 00 00 00 00 00 00
B

CONTENTS OF A:

OPDU Type:	A1	--Invoke
OPDU Length:	30	--Number of bytes in message
Data Type:	30	--Sequence
Data Length:	2E	--Number of bytes in Sequence (excluding this byte)

Data Type	Data Length	Contents	Comments
02 (INT)	01	05	Invoke Id
02 (INT)	01	10	Op=SendEvent
83 (OSTR)	26		Call Abandoned

Assume the following call abandoned event data

CONTENTS OF B (in decimal):

call_abandoned_sgrp	6137221111
call_abandoned_sgrp_dn_count	10
call_abandoned_dgrp	6137221111
call_abandoned_dgrp_dn_count	10
call_abandoned_tod	17:08:40
call_abandoned_cstatus	0
call_abandoned_delay	10
call_abandoned_numicq_p	0
call_abandoned_numicq_1	0
current_p_callq_wait_time	0
current_l_callq_wait_time	0
call_abandoned_acd_dn	6137221111
call_abandoned_acd_dn_count	10
call_abandoned_calling_number	0
call_abandoned_calling_numbe	0

5.4.6 DspRequestLoadManagement

5.4.6.1 ChangeTimeIdle

OPDU type: Invoke
InvokeID: 6
Operation: DSP REQUESTLOADMANAGEMENT
RO String Sent: A1 20 30 1E 02 01 06 02 01 08 30 16 9E 08
A

12 94 79 54 00 0A 64 00 02 02 00 00 16 06 41 43 44 4D 49 53
B

CONTENTS OF A:

OPDU Type:	A1	--Invoke
OPDU Length:	20	--Number of bytes in message
Data Type:	30	--Sequence
Data Length:	1E	--Number of bytes in Sequence (excluding this byte)

Data Type	Data Length	Contents	Comments
02 (INT)	01	06	Invoke Id
02 (INT)	01	08	Op=DSPRequestLoadManagement
30(SEQ)	16		
9E (OSTR)	08		ChangeTimeIdle

Assume the following data:

CONTENTS OF B (in decimal):

ACD Group DN	2149974500
ACD_Group_DN_Count	10
New Time Idle Value	100
Subpool Number	0000
Subpool Password	ACDMIS

5.4.6.2 ChangeDefLOB

OPDU type: Invoke
InvokeID: 7
Operation: DSP REQUESTLOADMANAGEMENT
RO String Sent: A1 21 30 1F 02 01 07 02 01 09 30 17 9F 1F 09
A

12 94 79 54 00 0A 12 33 02 02 00 00 16 06 41 43 44 4D 49 53
B

CONTENTS OF A:

OPDU Type:	A1	--Invoke
OPDU Length:	21	--Number of bytes in message
Data Type:	30	--Sequence
Data Length:	1F	--Number of bytes in Sequence (excluding this byte)

Data Type	Data Length	Contents	Comments
02 (INT)	01	07	Invoke Id
02 (INT)	01	09	Op=DSPRequestLoadManagement
30(SEQ)	17		
9FIF(OSTR)	09		ChangeDEFLOB

Assume the following data:

CONTENTS OF B (in decimal):

ACD Group DN	2149974500
ACD_Group_DN_Count	10
New Def LOB Code	213
New Def LOB Code Length	3
Subpool Number	0000
Subpool Password	ACDMIS

6.0 ACD-MIS Interface States and Transition Diagrams

6.1 ACD-MIS Interface States

Seven states exist in the ACD Management Information System Data Stream protocol:

1 Idle. No SVC has been established.

2 Logged Off. The SVC has been connected. The switch is waiting for a nosLogon RO.

3 Logged On. The logon has been verified. The ACD MIS application is running.

4 ACD MIS Wait. The ACD MIS application has received and verified a dspAssociatePool RO. The association of an ACD group pool has been made to the SVC.

5 Initializing. The ACD/MIS application has received a dspRequestInit RO and is in the process of transmitting the ACD configuration to the DSP.

6 Transferring. The ACD MIS application has received a dspStartTransfer RO and is transmitting ACD event ACD load management event ROs to the DSP.

7 Initializing and Transferring. Either the ACD MIS application has received a dspRequestInit RO after transmission of ACD event ROs has already been started to the DSP, or the ACD MIS application has received a dspTransfer RO after transmission of the ACD configuration ROs has already been started to the DSP. In either case, ACD configuration data is transmitted to the DSP interspersed with ACD ROs.

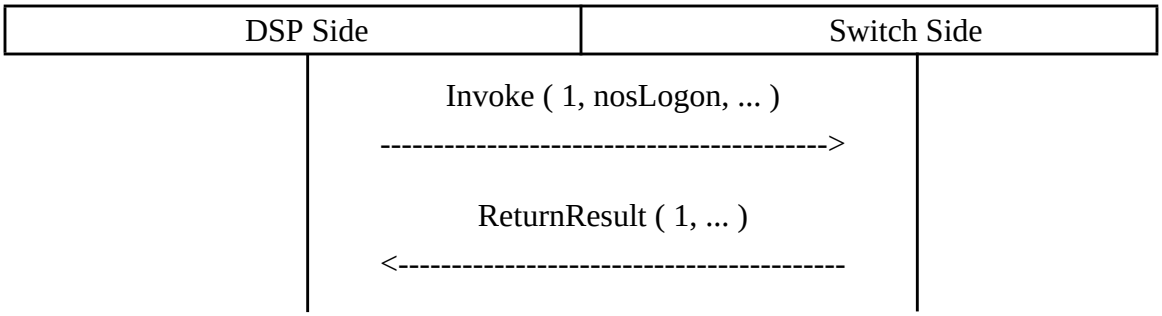
6.2 Time Sequence Diagrams

The following diagrams are intended to illustrate the flow of control and RO OPDUs between the DSP and the switch. Examples of individual operations, sequences of operations, and exception and error situations are included. Only the type of OPDU (i.e. Invoke, ReturnResult, ReturnError, and Reject), the

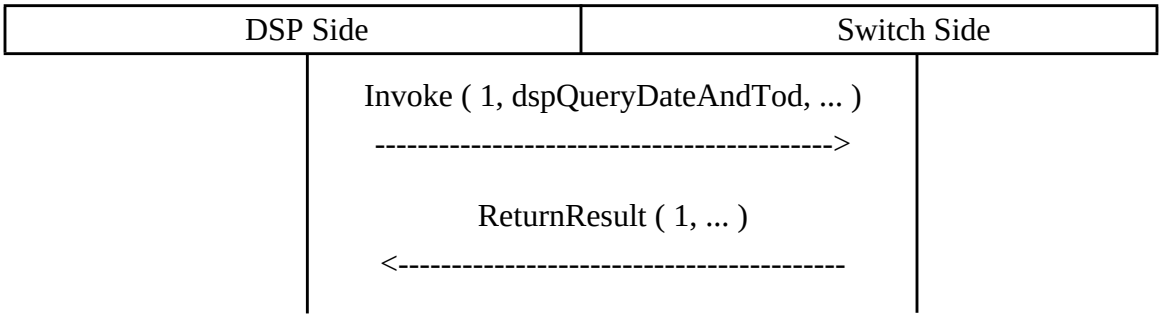
InvokeID (an integer), and the RO name (for Invoke OPDUs only) are given in the diagrams.

Note: The InvokeIDs used in these examples were arbitrarily chosen within the rules for InvokeID assignment (i.e. an InvokeID is an integer and cannot be reused while there is an outstanding ReturnResult or ReturnError expected).

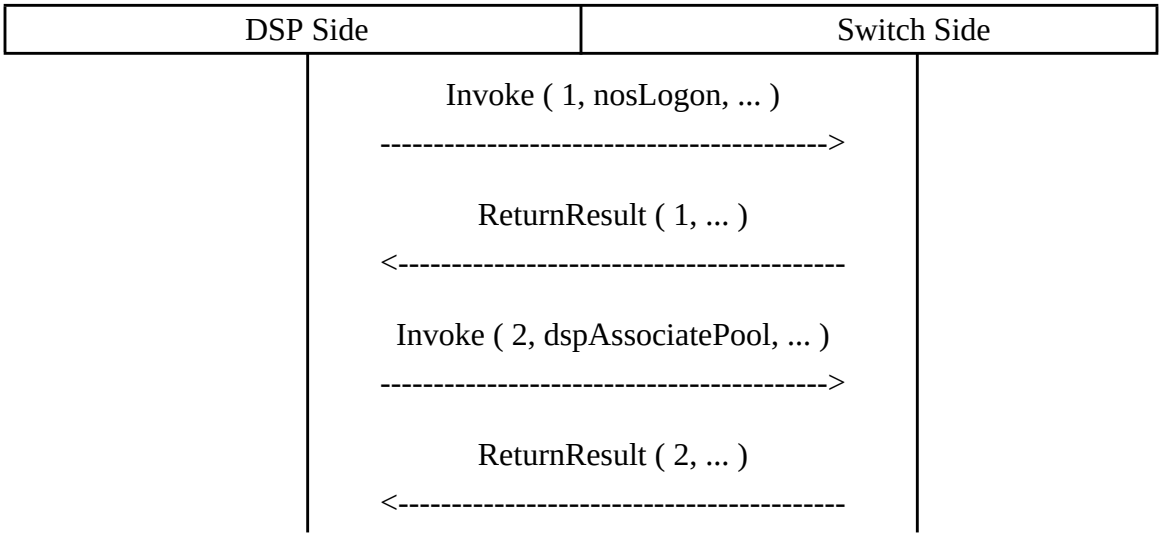
6.2.1 noslogon Operation

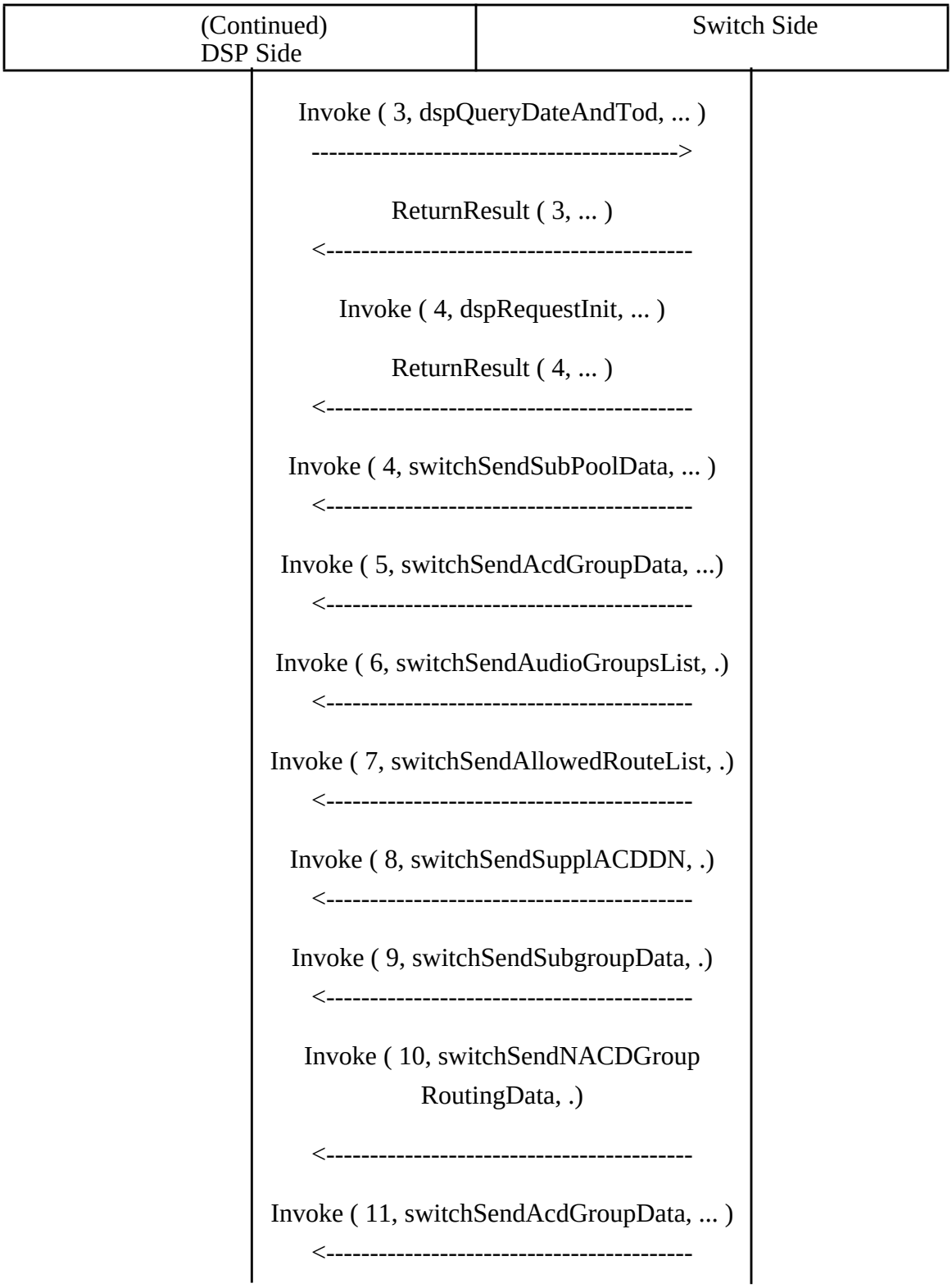


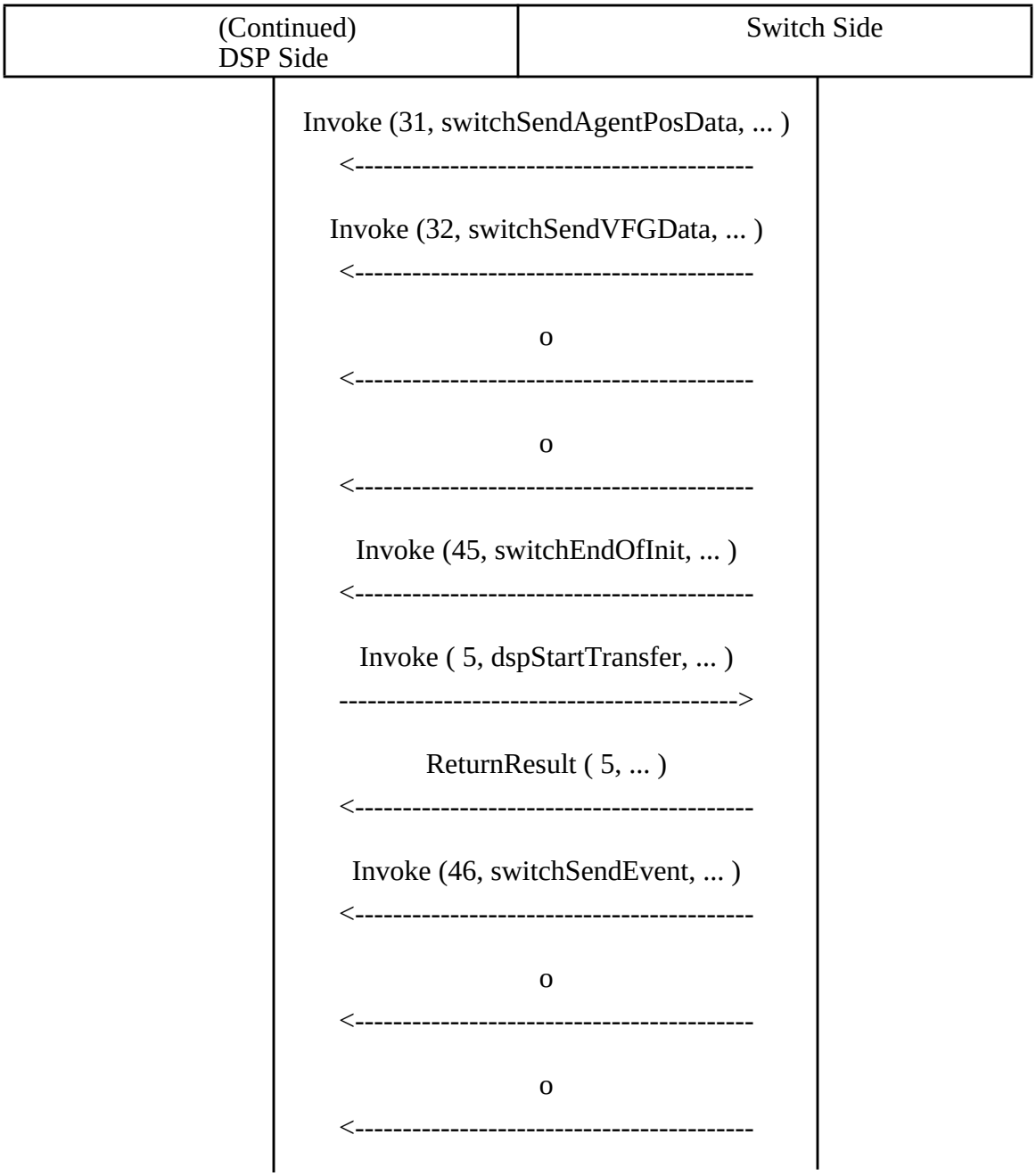
6.2.2 Query Time of Day Operation



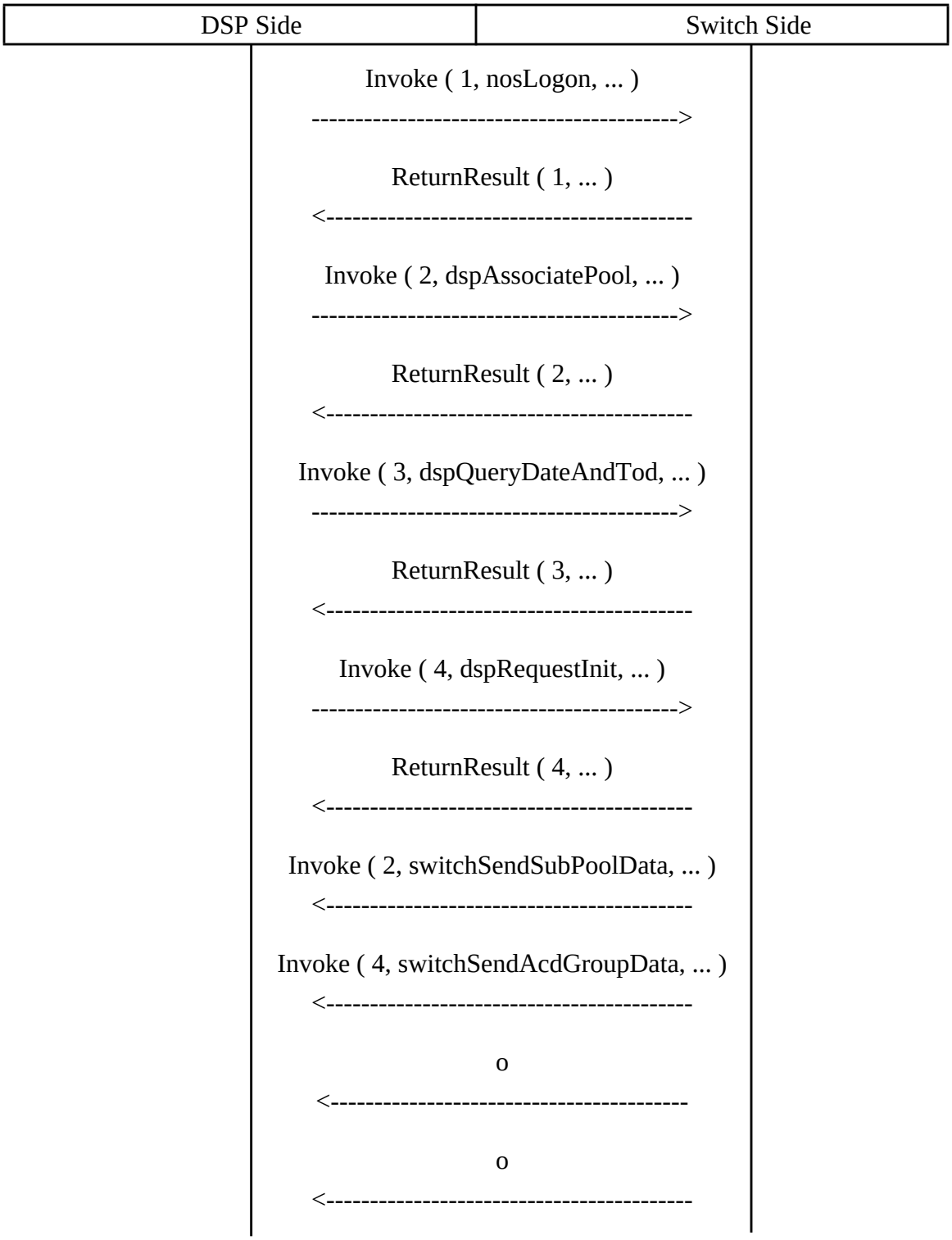
6.2.3 Logon, Initialization, and Transfer Operations

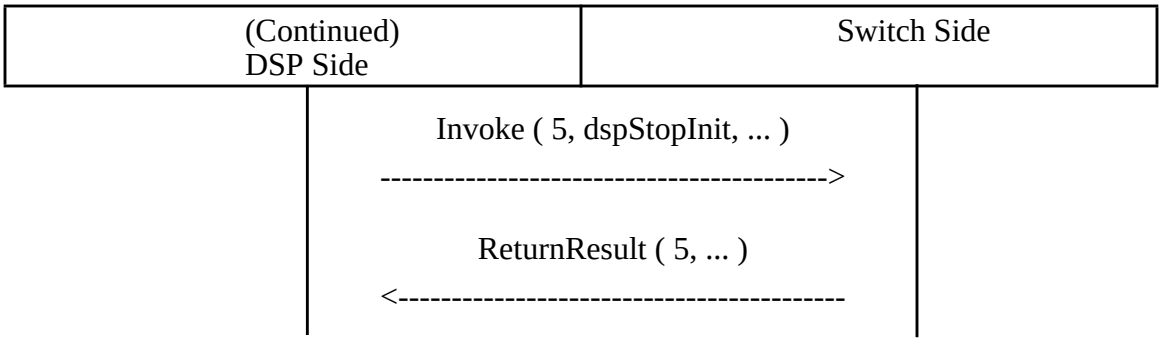



(Continued)
DSP Side
Switch Side
Invoke (3, dspQueryDateAndTod, ...)
ReturnResult (3, ...)
Invoke (4, dspRequestInit, ...)
ReturnResult (4, ...)
Invoke (4, switchSendSubPoolData, ...)
Invoke (5, switchSendAcdGroupData, ...)
Invoke (6, switchSendAudioGroupsList, .)
Invoke (7, switchSendAllowedRouteList, .)
Invoke (8, switchSendSupplACDDN, .)
Invoke (9, switchSendSubgroupData, .)
Invoke (10, switchSendNACDGroup
RoutingData, .)
Invoke (11, switchSendAcdGroupData, ...)

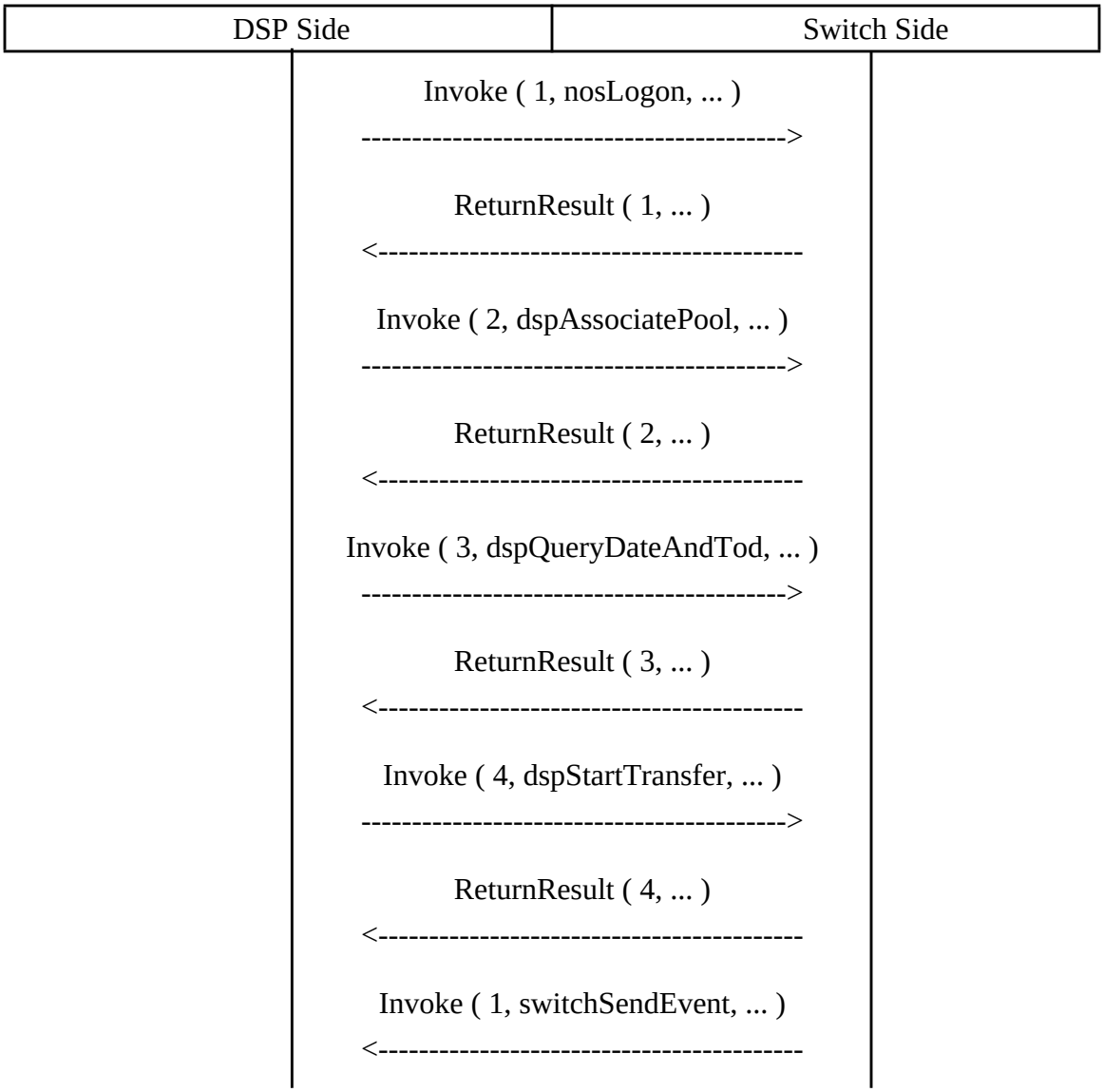

(Continued)
DSP Side
Switch Side
Invoke (31, switchSendAgentPosData, ...)
<----------
Invoke (32, switchSendVFGData, ...)
<----------
o
<----------
o
<----------
Invoke (45, switchEndOfInit, ...)
<----------
Invoke (5, dspStartTransfer, ...)
---------->
ReturnResult (5, ...)
<----------
Invoke (46, switchSendEvent, ...)
<----------
o
<----------
o
<----------

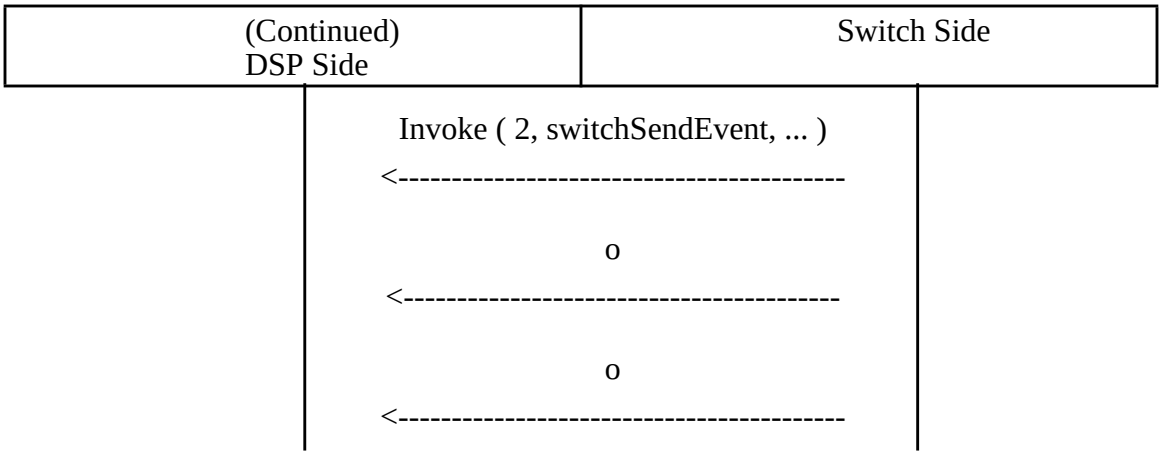
6.2.4 Logon and Initialization Halted



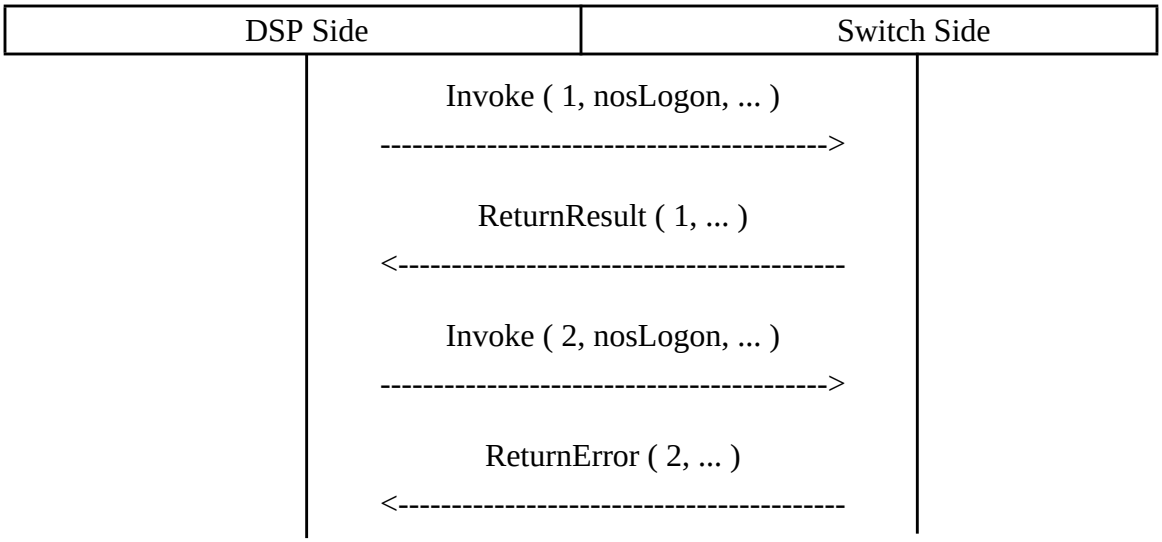


6.2.5 Logon and Transfer

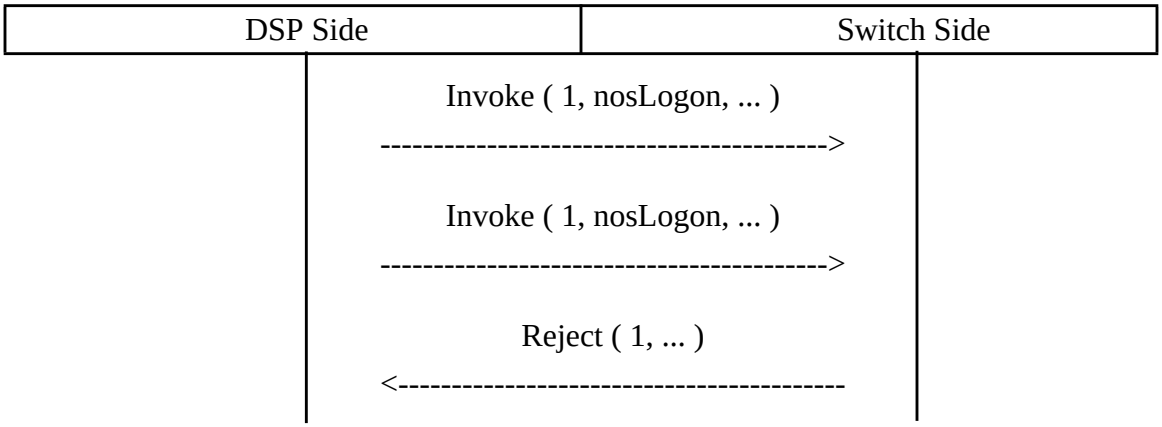




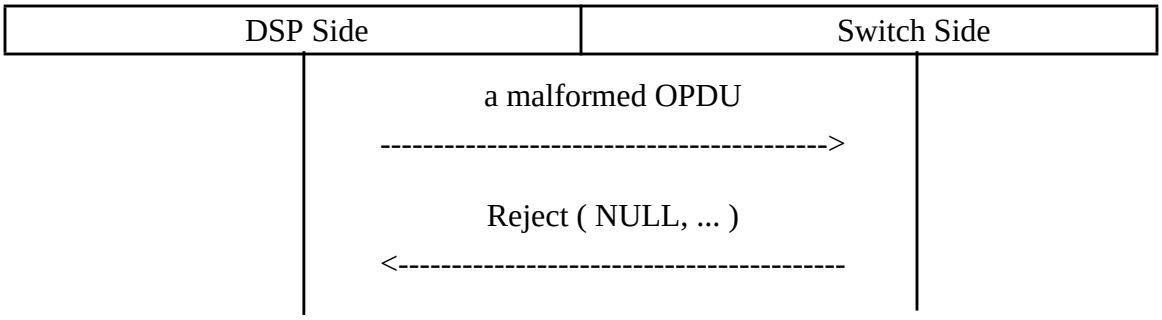
6.2.6 Exception in noslogon Operation



6.2.7 InvokeID Assignment Exception



6.2.8 Switch Response to Malformed OPDU

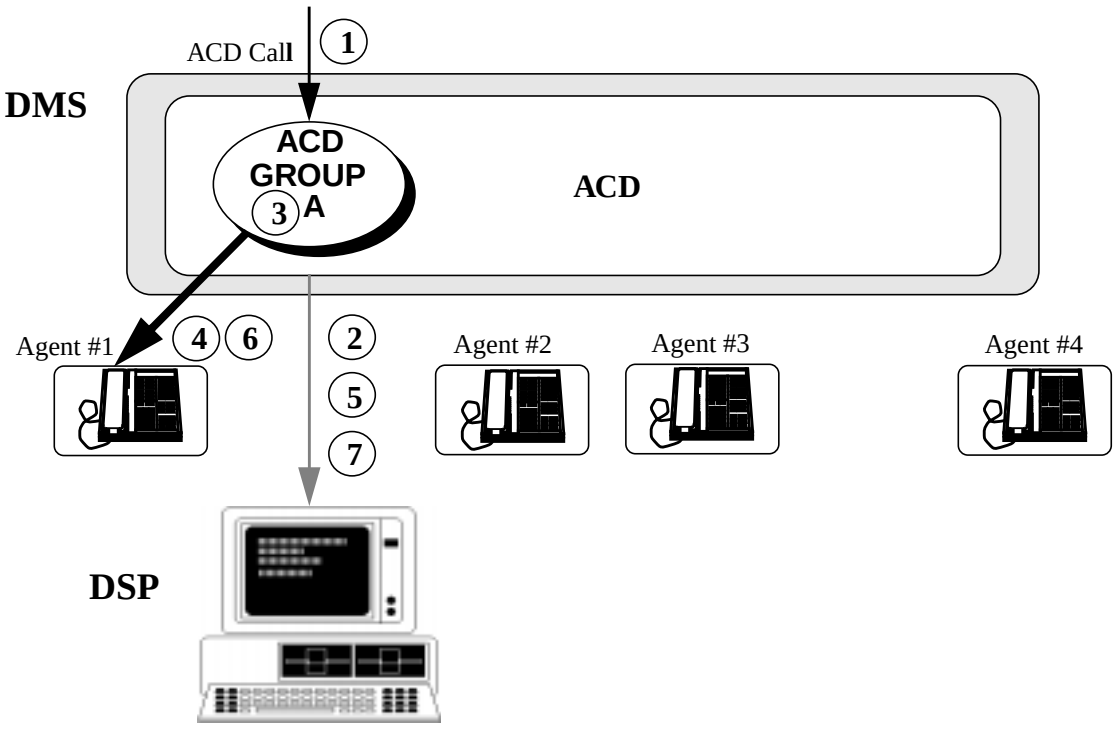


7.0 ACD Event Scenarios

7.1 Introduction

The following provides a number of typical ACD Call Scenarios and the associated event messages that are generated by the Switch. This is not an extensive list of all possible ACD event sequences. It is intended to be used as a reference for some of the possible sequences.

7.2 Scenario 1: Call Offered with No Queueing, Use of Release Key



7.2.1 Procedure 1

1 ACD call received by the switch

— call offered to ACD Group A

2 **ACDCallOffered** sent to DSP

- CALL_OFFERED_SGRP_DN is Primary ACD DN of group A
- CALL_OFFERED_DGRP_DN is Primary ACD DN of group A
- CALL_OFFERED_CSTATUS field is zero (call to be presented to agent position without queueing)
- CALL_OFFERED_ACD_DN is the Primary or Supplementary ACD DN of the call at the source group
- CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

3 Agent #1 selected

4 Agent #1 answers the call

5 **ACDCallAnswered** sent to DSP

- CALL_ANSWERED_SGRP_DN is Primary ACD DN of group A
- CALL_ANSWERED_DGRP_DN is Primary ACD DN of group A
- CALL_ANSWERED_AGPOSID is agent #1
- CALL_ANSWERED_CSTATUS is zero i.e., normal
- CALL_ANSWERED_CALLING_NUMBER is the caller's directory number if operating with E911

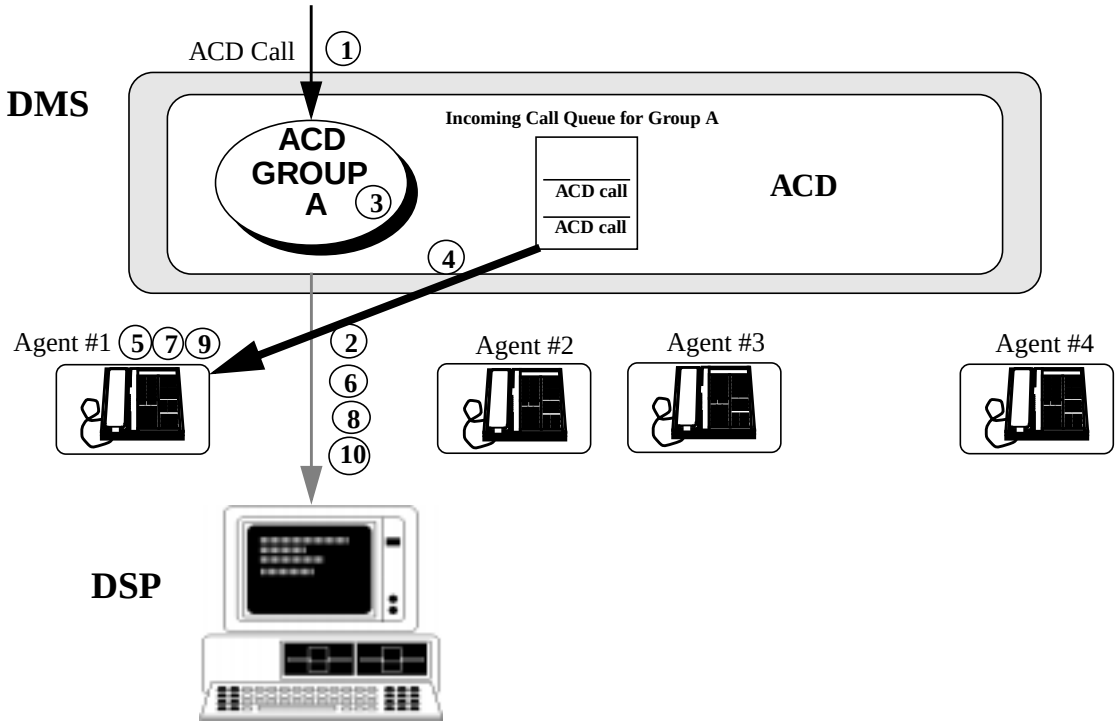
6 Agent #1 releases the call

- using the Releasekey

7 **ACDCallReleased** sent to DSP

- CALL_RELEASED_GRP_DN is Primary ACD DN of group A
- CALL_RELEASED_AGPOSNID is agent #1
- CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911
- CALL_RELEASED_NRDY flag field is zero (ACDNR key was not used)

7.3 Scenario 2: Call Offered with Queueing, Use of Not Ready Key



7.3.1 Procedure 2

1 ACD call received by the switch

— call offered to ACD Group A

2 **ACDCallOffered** sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_CSTATUS field is one (call is being queued at the destination ACD group's Incoming Call Queue)

— CALL_OFFERED_ACD_DN is the Primary or Supplementary ACD DN of the call at the source group

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

3 The call is queued in the incoming call queue

4 Agent #1 selected - call is presented

5 Agent #1 answers the call

6 **ACDCallAnswered** sent to DSP

— CALL_ANSWERED_SGRP_DN is Primary ACD DN of group A

— CALL_ANSWERED_DGRP_DN is Primary ACD DN of group A

— CALL_ANSWERED_AGPOSID is agent #1

— CALL_ANSWERED_CSTATUS is zero i.e., normal

— CALL_ANSWERED_CALLING_NUMBER is the caller's directory number if operating with E911

7 Agent #1 releases the call

— using the Not Ready key (Note: ACD group A does NOT have the Non-Immediate CuT-off (NONIMCT) option assigned)

8 **ACDCallReleased** sent to DSP

— CALL_RELEASED_GRP_DN is Primary ACD DN of group A

— CALL_RELEASED_AGPOSNID is agent #1

— CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911

— CALL_RELEASED_NRDY flag field is one (ACDNR key was used)

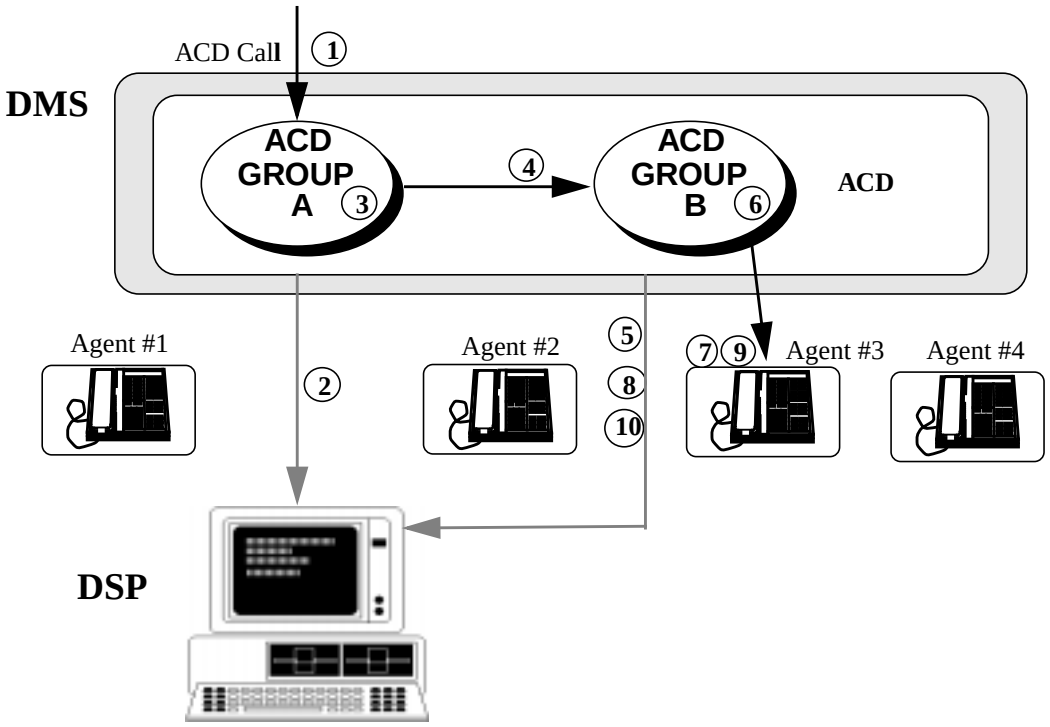
9 Agent #1 deactivates the Not Ready key

— to be available for another ACD call

10 **AgentPositionEvent** sent to DSP

— POSITION_EVENT_EVENTTYPE field is three (Not Ready deactivation)

7.4 Scenario 3: Night Service



7.4.1 Procedure 3

1 ACD call received by the switch

— call offered to ACD Group A

2 **ACDCallOffered** sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_CSTATUS field is four (deflected because of the destination ACD group is on Night Service)

— CALL_OFFERED_ACD_DN is the Primary or Supplementary ACD DN of the call

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

3 Call deflected to ACD Group A's night service route

— ACD Group A is not available to service ACD calls

4 Call offered to ACD group B

5 **ACDCallOffered** sent to DSP

- CALL_OFFERED_SGRP_DN is Primary ACD DN of group A (initial group the call was offered to)
- CALL_OFFERED_DGRP_DN is Primary ACD DN of group B (group currently servicing the call)
- CALL_OFFERED_CSTATUS field is zero

6 Agent #3 selected

- Call presented without being queued in the incoming call queue

7 Agent #3 answers the call

8 **ACDCallAnswered** sent to DSP

- CALL_ANSWERED_SGRP_DN is Primary ACD DN of group A
- CALL_ANSWERED_DGRP_DN is Primary ACD DN of group B
- CALL_ANSWERED_AGPOSID is agent #3
- CALL_ANSWERED_CSTATUS is zero
- CALL_ANSWERED_CALLING_NUMBER is the caller's directory number

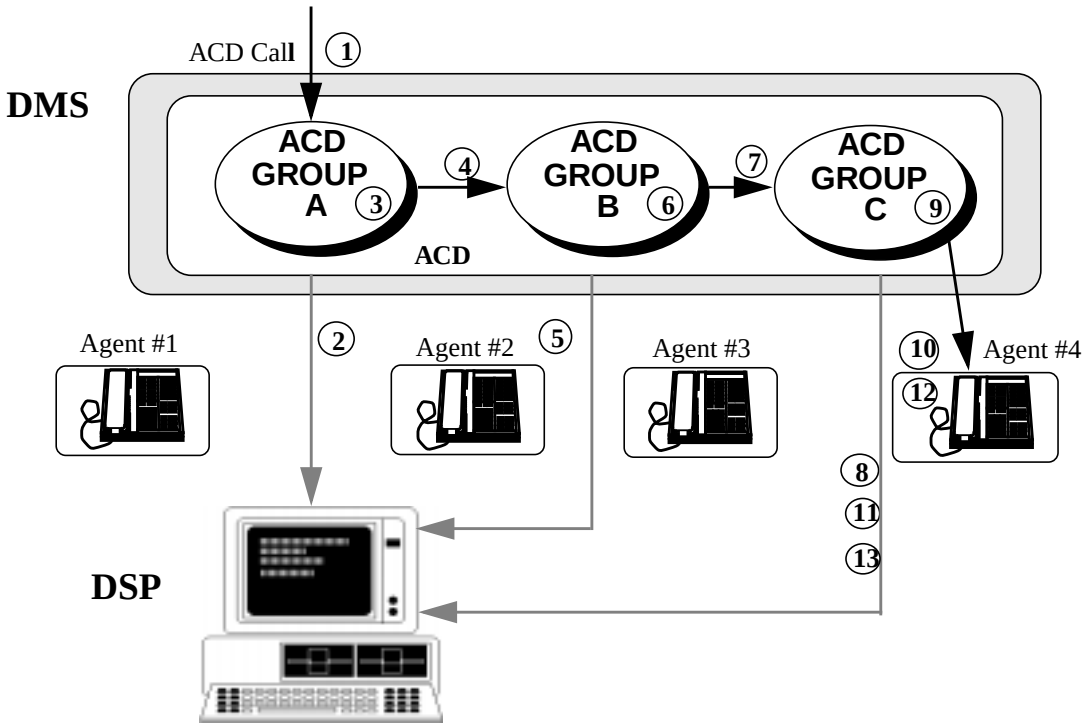
9 Agent #3 releases the call

- using the Release key

10 **ACDCallReleased** sent to DSP

- CALL_RELEASED_GRP_DN is Primary ACD DN of group B
- CALL_RELEASED_AGPOSNID is agent #3
- CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911
- CALL_RELEASED_NRDY flag field is zero (ACDNR key was not used)

7.5 Scenario 4: Call Deflection with Enhanced Overflow



7.5.1 Procedure 4

1 ACD call received by the switch

— call offered to ACD Group A

2 ACDCallOffered sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_CSTATUS field is two (deflected because Incoming Call Queue size or Maximum Wait Time has been exceeded)

— CALL_OFFERED_ACD_DN is the Primary or Supplementary ACD DN of the call

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

3 Call deflected to ACD Group A's threshold route

4 Call offered to ACD group B

— the defined overflow group for group A

5 ACDCallOffered sent to DSP

- CALL_OFFERED_SGRP_DN is Primary ACD DN of group A (initial group the call was offered to)
- CALL_OFFERED_DGRP_DN is Primary ACD DN of group B (group currently servicing the call)
- CALL_OFFERED_CSTATUS field is twenty (deflected because Incoming Call Queue size or Maximum Wait Time has been exceeded)

6 Call deflected via the Enhanced Overflow feature

7 Call offered to ACD Group C (the enhanced overflow feature has decided it could accept the call)

8 ACDCallOffered sent to DSP

- CALL_OFFERED_SGRP_DN is Primary ACD DN of group A (initial group the call was offered to)
- CALL_OFFERED_DGRP_DN is Primary ACD DN of group C (group currently servicing the call)
- CALL_OFFERED_CSTATUS field is zero (call offered to agent without queueing)

9 Agent #4 selected

- Call presented without being queued in the incoming call queue

10 Agent #4 answers the call

11 ACDCallAnswered sent to DSP

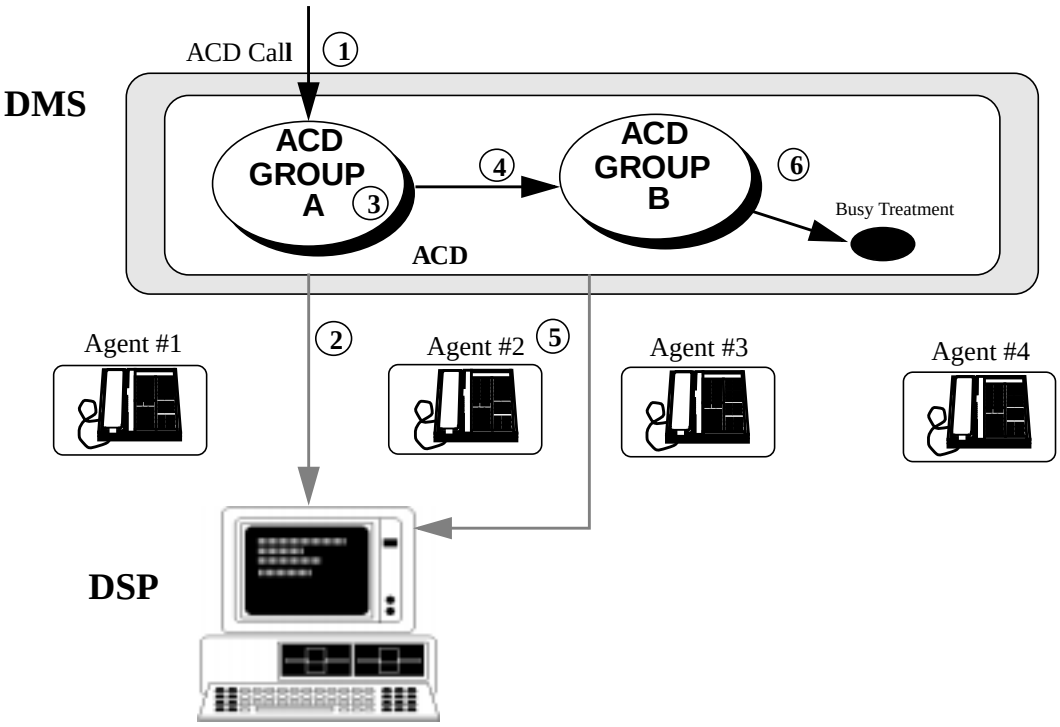
- CALL_ANSWERED_SGRP_DN is Primary ACD DN of group A
- CALL_ANSWERED_DGRP_DN is Primary ACD DN of group C
- CALL_ANSWERED_AGPOSID is agent #4
- CALL_ANSWERED_CSTATUS is zero
- CALL_ANSWERED_CALLING_NUMBER is the caller's directory number if operating with E911

12 Agent #4 releases the call - using the Release key

13 ACDCallReleased sent to DSP

- CALL_RELEASED_GRP_DN is Primary ACD DN of group C
- CALL_RELEASED_AGPOSNID is agent #4
- CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911
- CALL_RELEASED_NRDY flag field is zero (ACDNR key was not used)

7.6 Scenario 5: Call Deflection without Enhanced Overflow



7.6.1 Procedure 5

1 ACD call received by the switch

— call offered to ACD Group A

2 ACDCallOffered sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_CSTATUS field is two (deflected because Incoming Call Queue size or Maximum Wait Time has been exceeded)

— CALL_OFFERED_ACD_DN is the Primary or Supplementary ACD DN of the call

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

3 Call deflected to ACD Group A's threshold route

4 Call offered to ACD group B

— the defined overflow group for group A

5 ACDCallOffered sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A (initial group the call was offered to)

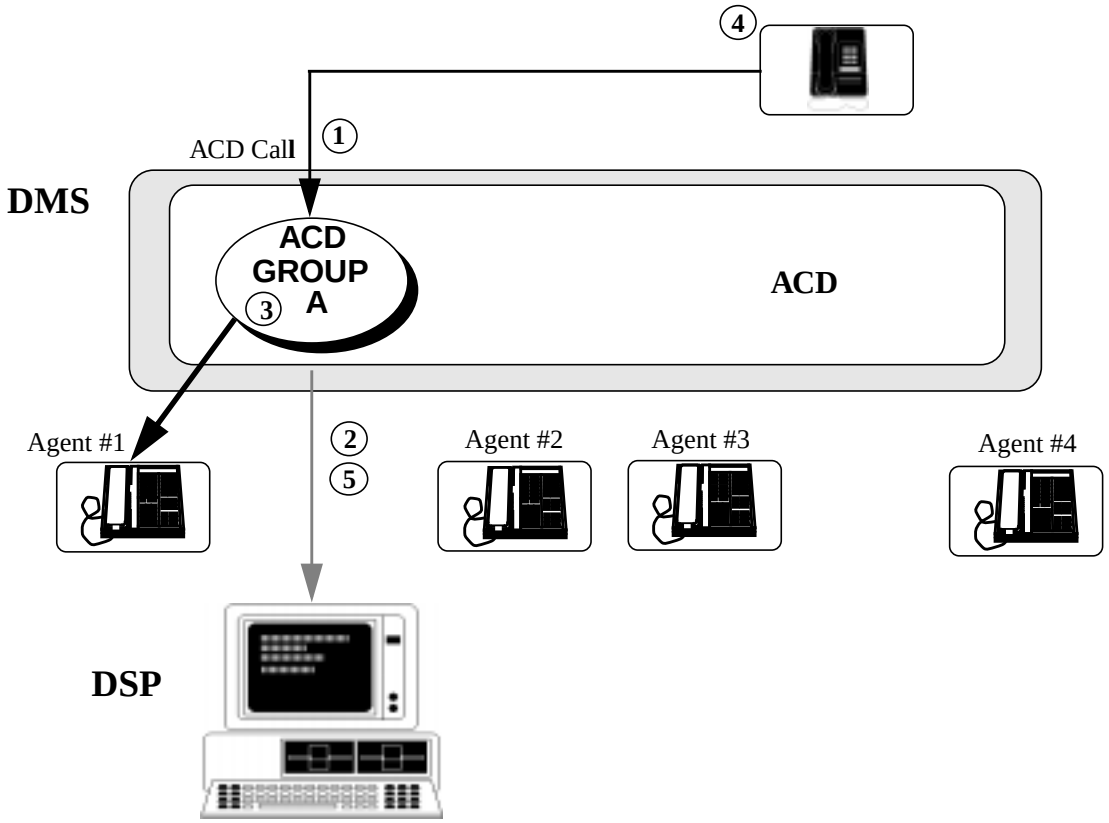
— CALL_OFFERED_DGRP_DN is Primary ACD DN of group B (group currently servicing the call)

— CALL_OFFERED_CSTATUS field is three (Call cannot be overflowed again and is to be given busy treatment)

6 Call is routed to busy treatment

— full ACD Group B Incoming Call queue and group is not equipped with the enhanced overflow feature

7.7 Scenario 6: Agent No Answer, Call abandoned



7.7.1 Procedure 6

1 ACD call received by the switch

— call offered to ACD Group A

2 ACDCallOffered sent to DSP

- CALL_OFFERED_SGRP_DN is Primary ACD DN of group A
- CALL_OFFERED_DGRP_DN is Primary ACD DN of group A
- CALL_OFFERED_CSTATUS field is zero (call to be presented to agent position without queueing)
- CALL_OFFERED_ACD_DN is the Primary or Supplementary ACD DN of the call at the source group
- CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

3 Agent #1 selected

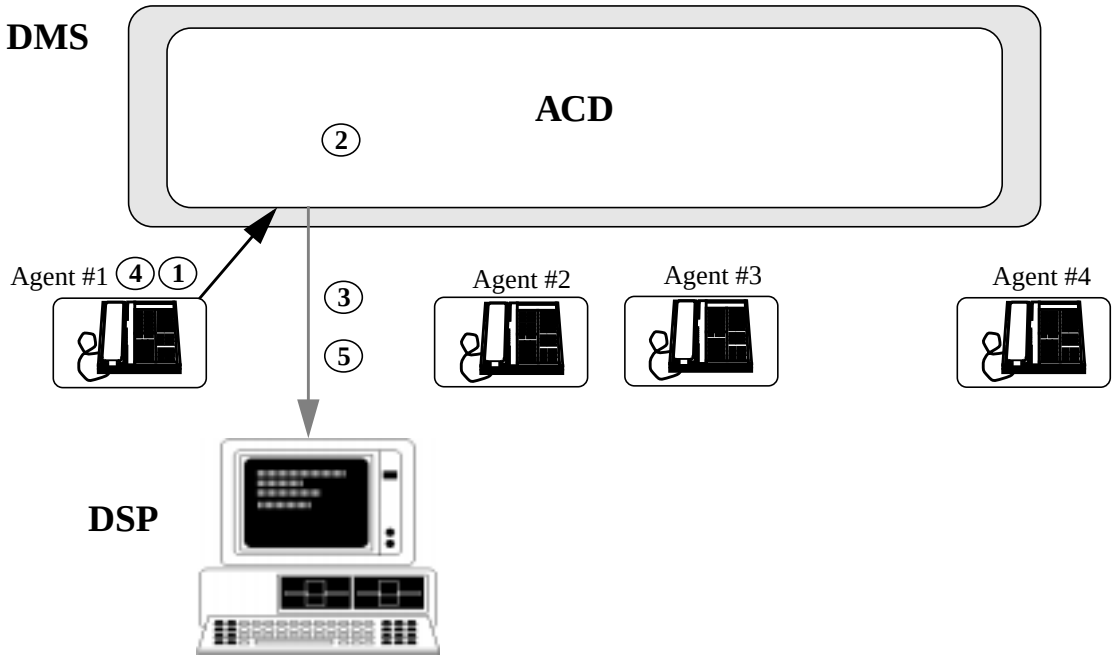
4 Caller abandons the call

- tired of waiting

5 ACDCallAbandoned sent to DSP

- CALL_ABANDONED_SGRP_DN is Primary ACD DN of group A
- CALL_ABANDONED_DGRP_DN is Primary ACD DN of group A
- CALL_ABANDONED_CSTATUS is zero i.e., normal
- CALL_ABANDONED_CALLING_NUMBER is the caller's directory number if operating with E911

7.8 Scenario 7(A): Agent Log In with Not Ready Option



7.8.1 Procedure 7(A)

Note: Agent position is not logged in (i.e., Make Set Busy is activated) and the ACDNR option is assigned to the position.

1 Agent #1 depresses

— the Make Set Busy key

— then the INCALLS key

— agent receives dial tone and enters login Id

2 Login Id is verified by the switch

— if it is valid, MSB is deactivated and Agent #1 placed in the Not Ready state

3 AgentPositionEvent sent to DSP

— POSITION_EVENT_AGPOSNID is agent #1

— POSITION_EVENT_EVENTTYPE is zero (agent login)

4 Agent #1 presses Not Ready key

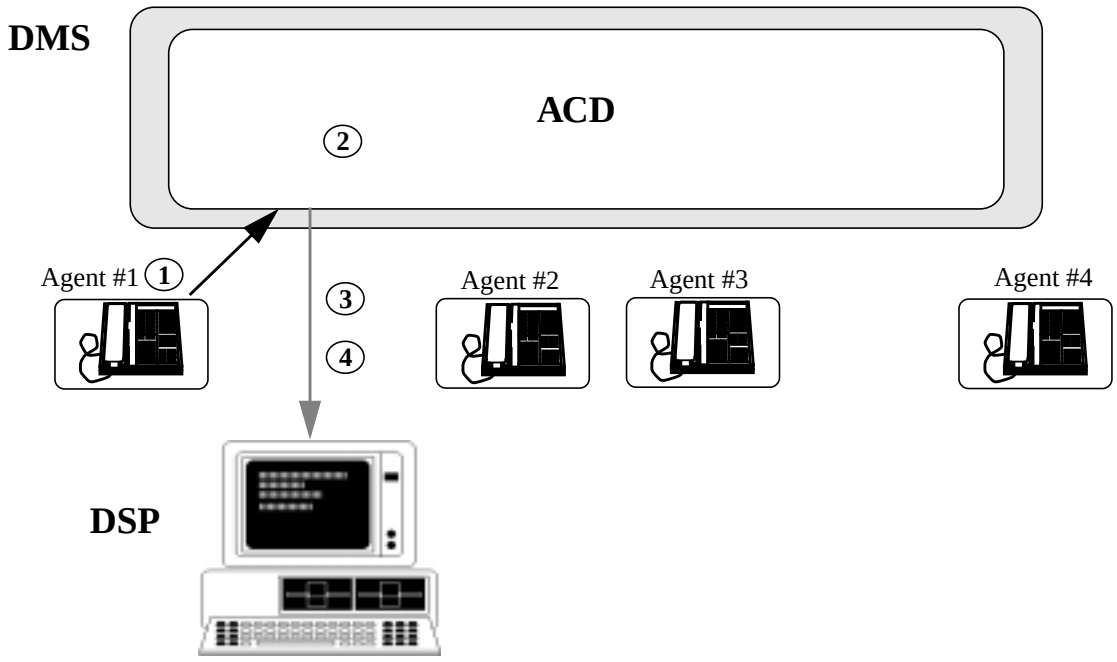
— agent position is removed from the Not Ready state and made available to receive ACD calls

5 AgentPositionEvent sent to DSP

— POSITION_EVENT_AGPOSNID is agent #1

— POSITION_EVENT_EVENTTYPE is three (Not Ready deactivation)

7.9 Scenario 7(B): Agent Log In without Not Ready Option



7.9.1 Procedure 7(B)

Note: Agent position is not logged in (i.e., Make Set Busy is activated) and the ACDNR option is NOT assigned to the position.

1 Agent #1 depresses

— the Make Set Busy key

— then the INCALLS key

— agent receives dial tone and enters login Id

2 Login Id is verified by the switch

— if it is valid, MSB is deactivated and Agent #1 is placed automatically in the ACD “idle” queue

3 AgentPositionEvent sent to DSP

— POSITION_EVENT_AGPOSNID is agent #1

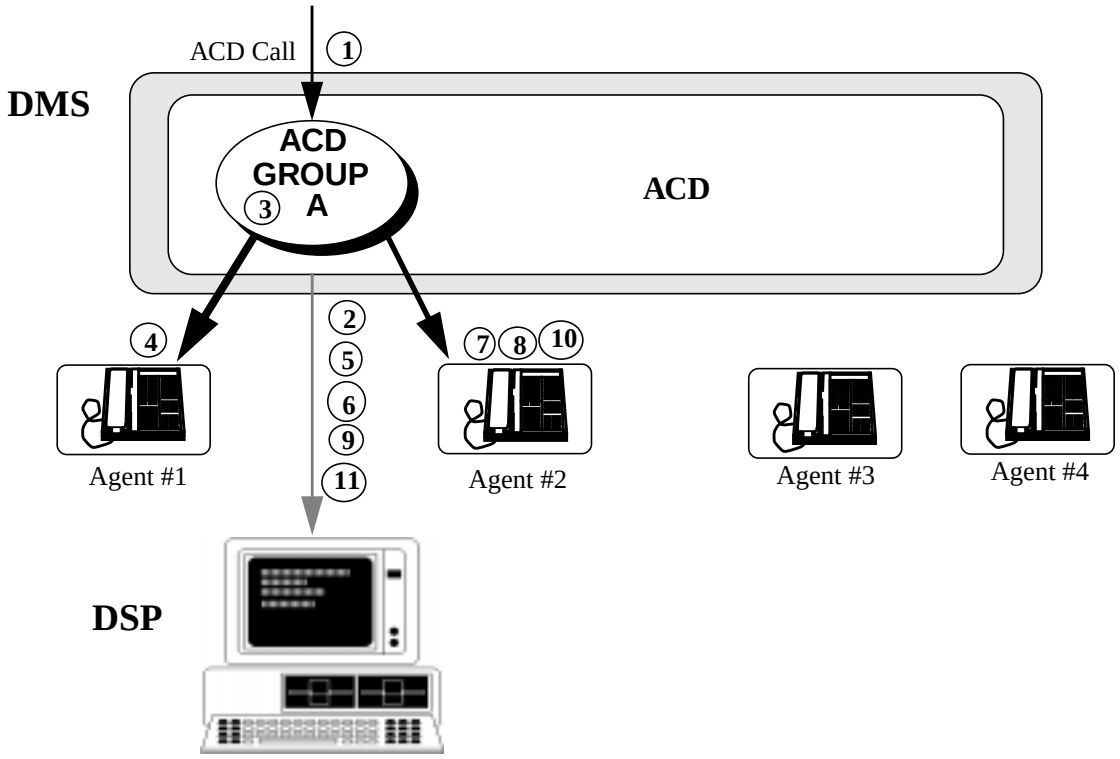
— POSITION_EVENT_EVENTTYPE is zero (agent login)

4 AgentPositionEvent sent to DSP

— POSITION_EVENT_AGPOSNID is agent #1

— POSITION_EVENT_EVENTTYPE is three (Not Ready deactivation)

7.10 Scenario 8: Use of Not Ready While Call is Ringing



7.10.1 Procedure 8

1 ACD call received by the switch

— call offered to ACD Group A

2 ACDCallOffered sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_CSTATUS field is zero (call to be presented to agent position without queueing)

— CALL_OFFERED_ACD_DN is the Primary or Supplementary ACD DN of the call at the source group

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

3 Agent #1 selected

— call is presented without being queued in the incoming call queue

4 Agent #1 presses the Not Ready key

— the ringing ACD call is removed from the agent position and the call is placed back to the front of the queue if no other agent is available to take the call.

5 AgentPositionEvent sent to DSP

— POSITION_EVENT_AGPOSNID is agent #1

— POSITION_EVENT_EVENTTYPE is two (Not Ready activation)

6 ACDCallOffered sent to DSP

— information same as in 2

— CALL_OFFERED_CSTATUS field is 19 (agent forced call back to the queue with ACDNR key)

7 Agent #2 selected

— next available agent position in ACD Group A

8 Agent #2 answers the call

9 ACDCallAnswered sent to DSP

— CALL_ANSWERED_SGRP_DN is Primary ACD DN of group A

— CALL_ANSWERED_DGRP_DN is Primary ACD DN of group A

— CALL_ANSWERED_AGPOSID is agent #2

— CALL_ANSWERED_CSTATUS is zero i.e., normal

— CALL_ANSWERED_CALLING_NUMBER is the caller's directory number if operating with E911

10 Agent #2 releases the call

— using the Releasekey

11 ACDCallReleased sent to DSP

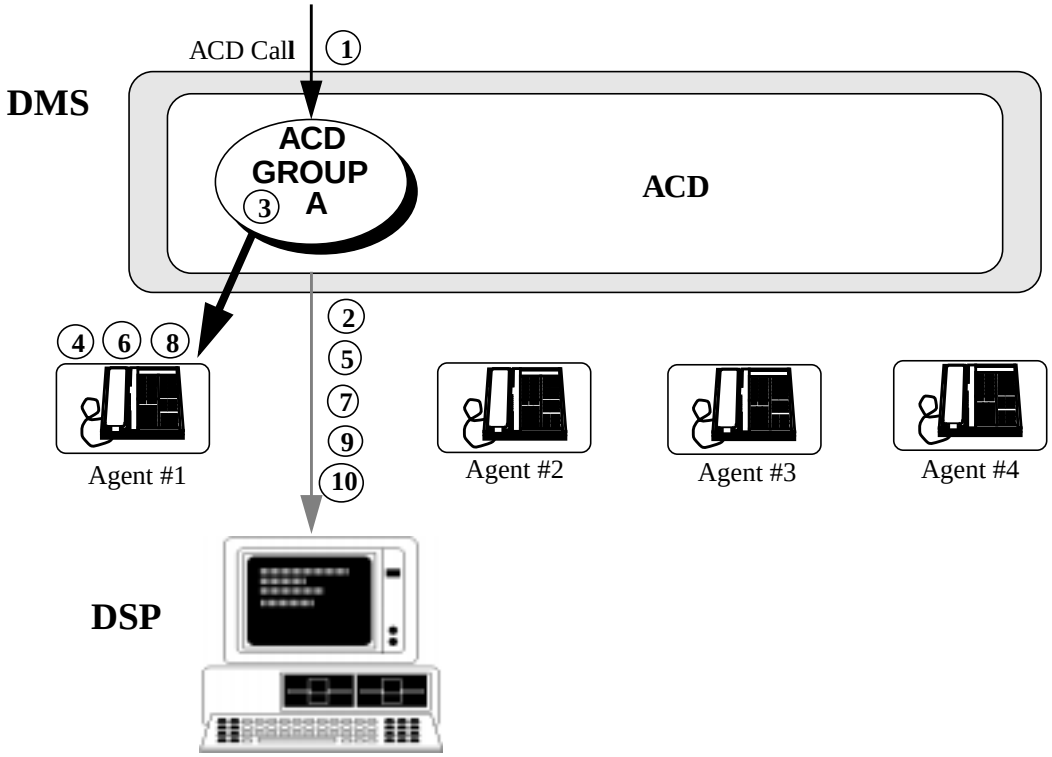
— CALL_RELEASED_GRP_DN is Primary ACD DN of group A

— CALL_RELEASED_AGPOSNID is agent #2

— CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911

— CALL_RELEASED_NRDY flag field is zero (ACDNR key was not used to release the call)

7.11 Scenario 9: Use of Make Set Busy



7.11.1 Procedure 9

1 ACD call received by the switch

— call offered to ACD Group A

2 ACDCallOffered sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_CSTATUS field is zero (call to be presented to agent position without queueing)

— CALL_OFFERED_ACD_DN is the Primary or Supplementary ACD DN of the call at the source group

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

3 Agent #1 selected

4 Agent #1 answers the call

5 ACDCallAnswered sent to DSP

- CALL_ANSWERED_SGRP_DN is Primary ACD DN of group A
- CALL_ANSWERED_DGRP_DN is Primary ACD DN of group A
- CALL_ANSWERED_AGPOSID is agent #1
- CALL_ANSWERED_CSTATUS is zero i.e., normal
- CALL_ANSWERED_CALLING_NUMBER is the caller's directory number if operating with E911

6 Agent #1 activates the Make Set Busy feature

- wants to be logged out after servicing current ACD call

7 AgentPositionEvent sent to DSP

- POSITION_EVENT_AGPOSNID is agent #1
- POSITION_EVENT_EVENTTYPE is seven (Make Set Busy activation)

8 Agent #1 releases the call

- using the release key

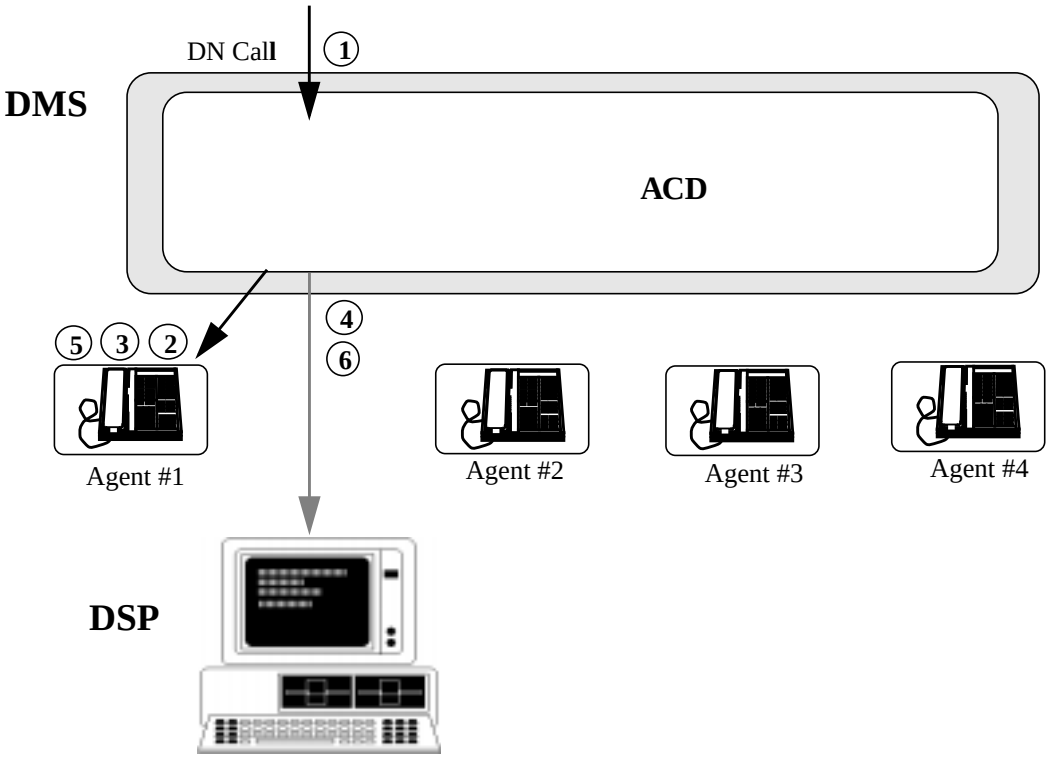
9 ACDCallReleased sent to DSP

- CALL_RELEASED_GRP_DN is Primary ACD DN of group A
- CALL_RELEASED_AGPOSNID is agent #1
- CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911
- CALL_RELEASED_NRDY flag field is zero (ACDNR key was not used)

10 AgentPositionEvent sent to DSP

- POSITION_EVENT_AGPOSNID is agent #1
- POSITION_EVENT_EVENTTYPE is one (Agent Logout)

7.12 Scenario 10(A): Use of SDN Key for Incoming Call on a Logged Agent Position without Active ACD Call



7.12.1 Procedure 10(A)

This scenario is unaffected by whether the NRONSDN option is assigned or not to the agent position. The agent must activate Not Ready feature in order not to receive ACD calls while active on the SDN incoming call.

1 Non - ACD (DN Call) received by the switch

2 Agent #1 alerted

3 Agent #1 presses the SDN key to answer the incoming call

4 AgentPositionEvent sent to DSP

— POSITION_EVENT_EVENTTYPE field is four (answer a DN call)

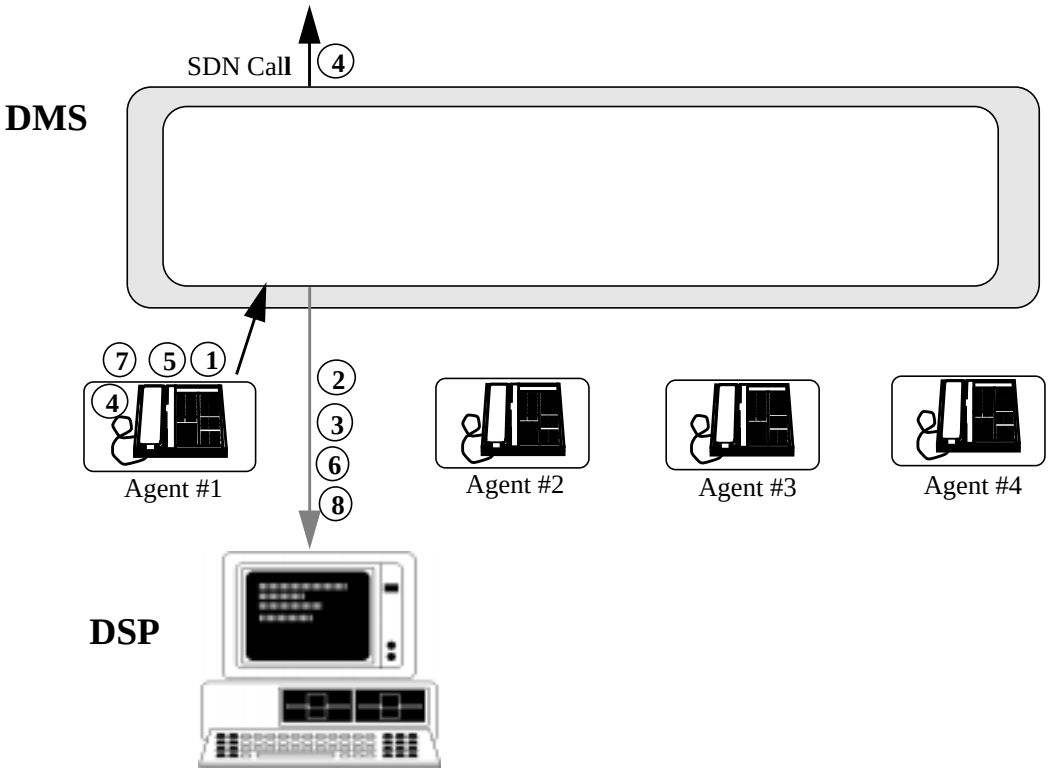
5 Agent #1 releases the call

— using the Release key

6 AgentPositionEvent sent to DSP

— POSITION_EVENT_EVENTTYPE field is six (release a DN call)

7.13 Scenario 10(B): Use of SDN Key for Outgoing Call on a Logged Agent Position without Active ACD Call



7.13.1 Procedure 10(B)

Note: Agent #1 is subscribed to NRONSDN, is logged on, and the INCALLS key is inactive:

1 Agent #1 presses the SDN key

— Agent #1 is automatically placed in “not-ready” queue.

2 AgentPositionEvent sent to DSP

— POSITION_EVENT_EVENTTYPE field is two (Activate ACD Not Ready)

3 AgentPositionEvent sent to DSP

— POSITION_EVENT_EVENTTYPE field is five (Originate DN Call)

4 Agent #1 dials the digits

— gets connected to the destination.

5 Agent #1 releases the call

— using the Release key

6 AgentPositionEvent sent to DSP

— POSITION_EVENT_EVENTTYPE field is six (release a DN call)

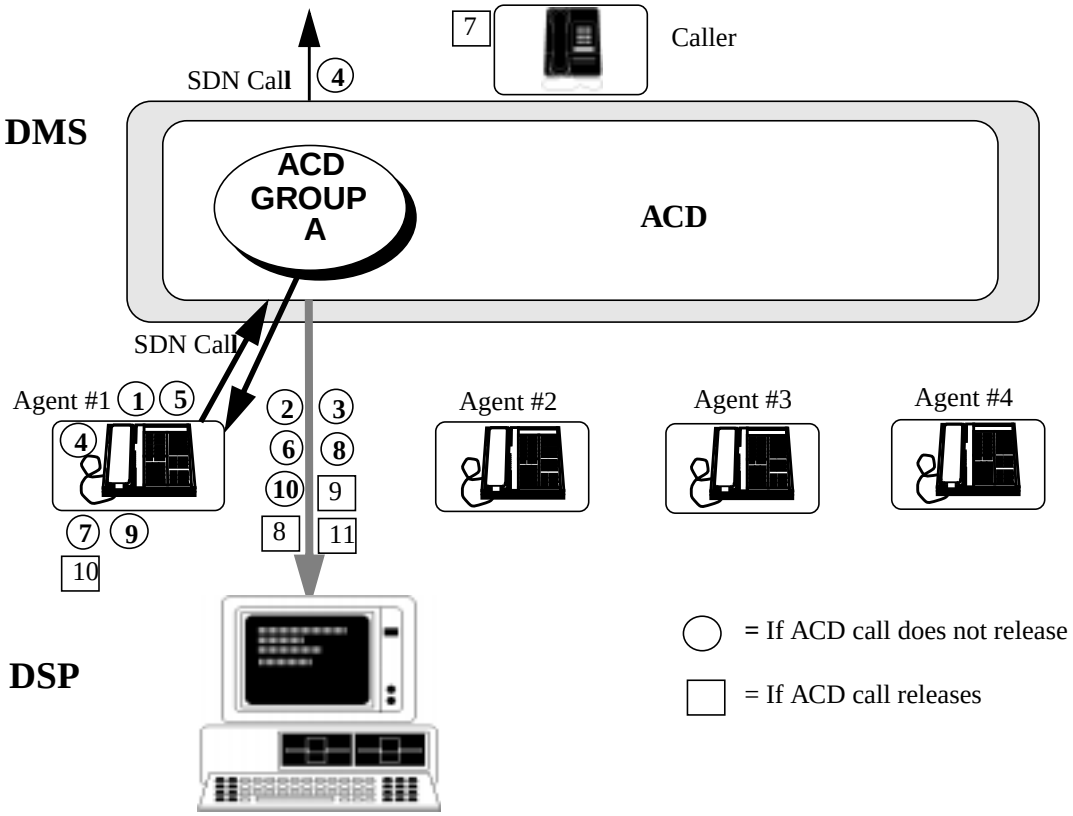
7 Agent #1 presses the ACDNR key

— Agent #1 is placed in the idle queue.

8 AgentPositionEvent sent to DSP

— POSITION_EVENT_EVENTTYPE field is three (Deactivate Not Ready)

7.14 Scenario 10(C): Use of SDN Key for Outgoing Call on a Logged Agent Position with Active ACD Call Procedure



7.14.1 Procedure 10(C)

Note: Agent #1 is subscribed to NRONSDN, is logged on, and the INCALLS key is active.

1 Agent #1 presses the SDN key

— Agent #1 Not Ready lamp is on

2 AgentPositionEvent sent to DSP

— POSITION_EVENT_EVENTTYPE field is eleven (Activate INCALLS Hold)

3 AgentPositionEvent sent to DSP

— POSITION_EVENT_EVENTTYPE field is five (Originate DN Call)

4 Agent #1 dials the digits

— gets connected to the destination

5 Agent #1 releases the call

— using the Release key

6 AgentPositionEvent sent to DSP

— POSITION_EVENT_EVENTTYPE field is six (release a DN call)

7.14.1.1 The ACD Call remains active

Note: Use circled numbers on the diagram.

7 Agent #1 presses the INCALLS key

8 AgentPositionEvent sent to DSP

— POSITION_EVENT_EVENTTYPE field is twelve (Deactivate INCALLS Hold)

9 Agent #1 presses the Not Ready key.

— Agent #1 Not Ready lamp goes OFF

7.14.1.2 The ACD Call is released by caller

Steps 1. through 6. are the same as Section 7.14.1.

Note: Use boxed numbers on the diagram.

7 Agent #1 INCALLS call is released by caller

— Agent #1 is automatically put in the “not-ready” queue

8 ACDCallReleased sent to the DSP

— CALL_RELEASED_NRDY value is 1 (ACDNR key was active)

9 AgentPositionEvent sent to DSP

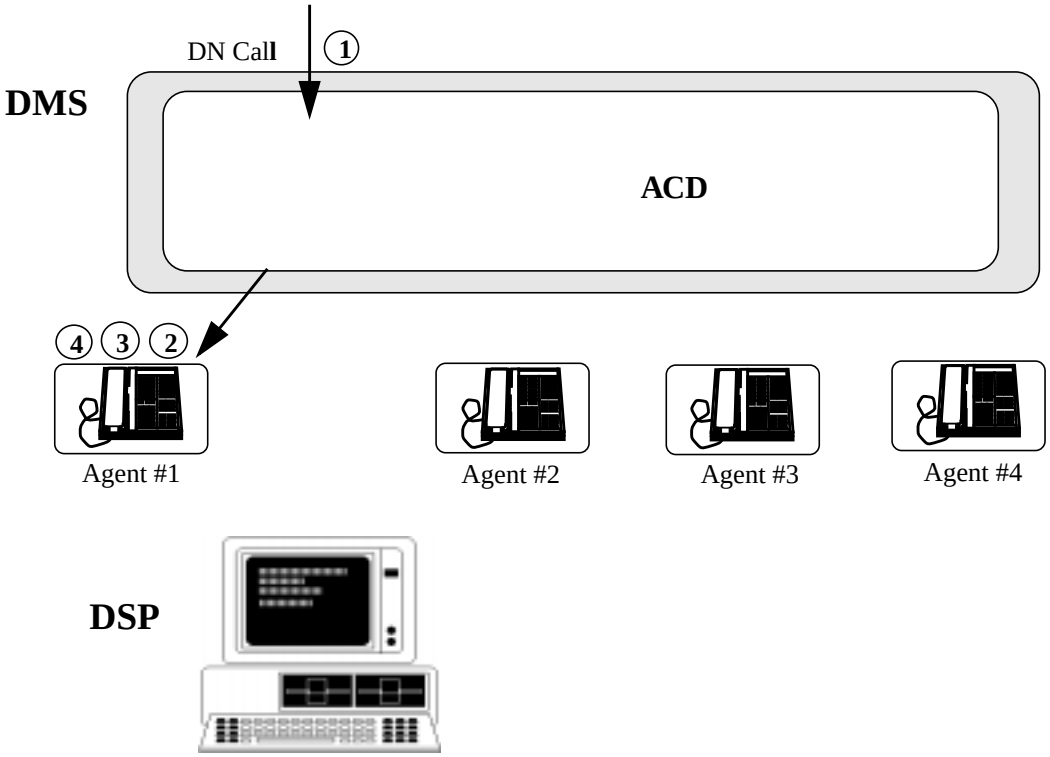
— POSITION_EVENT_EVENTTYPE field is two (Activate ACD Not Ready)

10 Agent #1 presses the Not Ready key

11 AgentPositionEvent sent to DSP

— POSITION_EVENT_EVENTTYPE field is three (Deactivate Not Ready)

7.15 Scenario 11: An Event on an Agent Position which is Not Logged In



7.15.1 Procedure 11

Note: An event occurs on an agent position that does not have an agent logged into it.

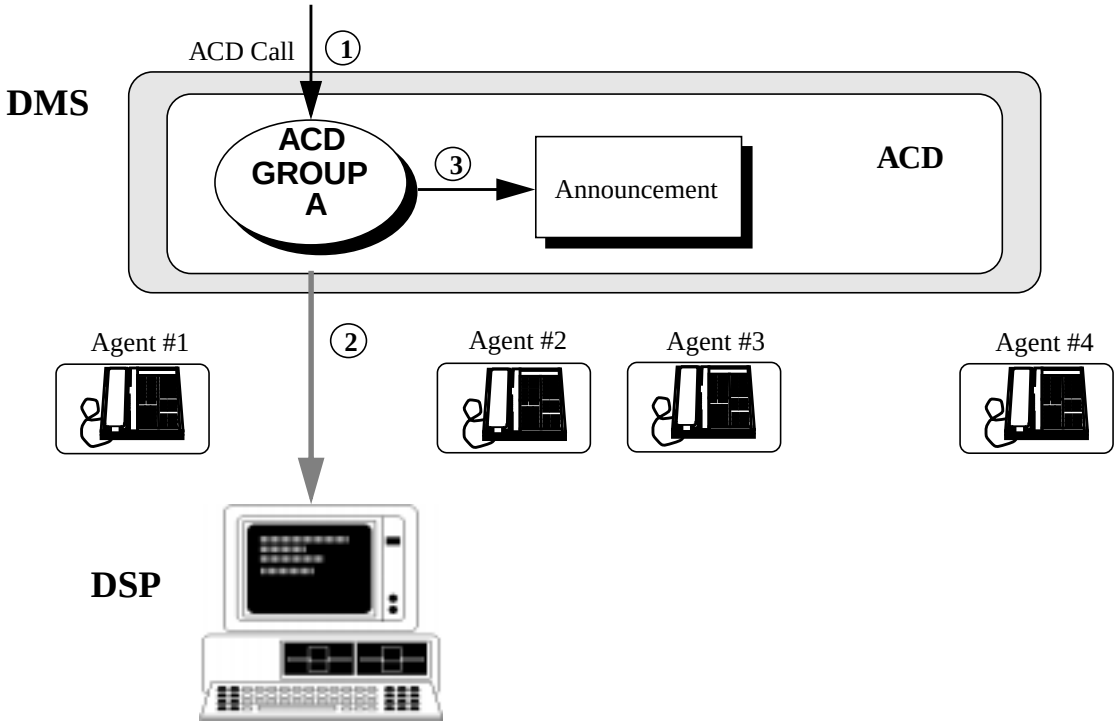
1 Non - ACD (DN Call) received by the switch

2 Agent #1 alerted

3 Agent #1 presses the DN key to answer the incoming call

4 Agent #1 releases the call - using the Release key

7.16 Scenario 12: Call Deflected to an Announcement



7.16.1 Procedure 12

1 ACD call received by the switch

— call offered to ACD Group A

2 ACDCallOffered sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group A

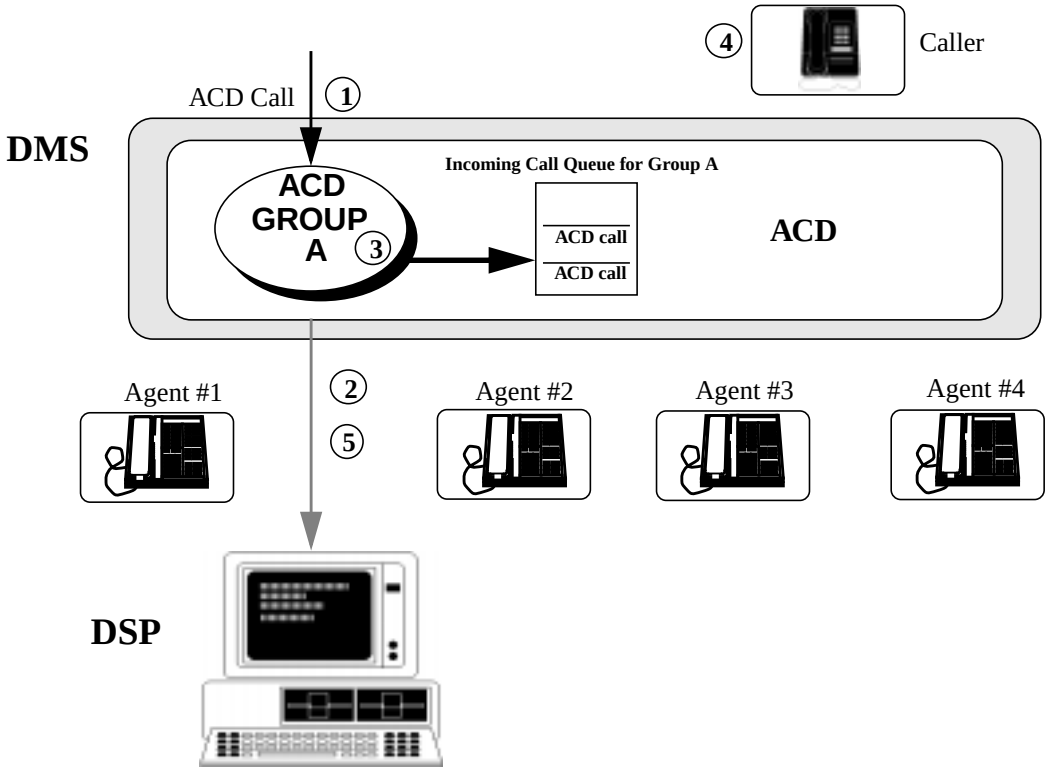
— CALL_OFFERED_CSTATUS field is two (full ACD Group A incoming queue)

— CALL_OFFERED_ACD_DN is the Primary or Supplementary ACD DN of the call at the source group

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

3 Call deflected to ACD Group A's threshold route which is to an announcement

7.17 Scenario 13: Call Abandoned while Waiting in the Queue



7.17.1 Procedure 13

1 ACD call received by the switch

— call offered to Group A

2 **ACDCallOffered** sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_CSTATUS field is one (call is being queued at the destination ACD group's IncomingCall Queue)

— CALL_OFFERED_ACD_DN is the Primary or Supplementary ACD DN of the call at the source group

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

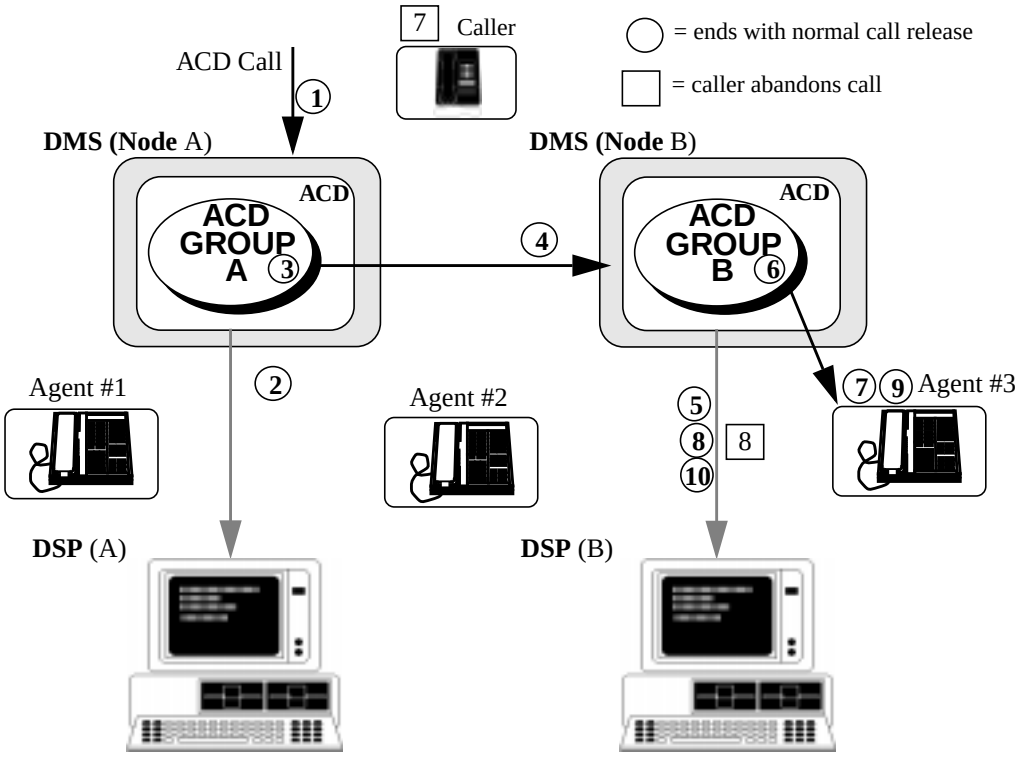
3 The call is queued in the incoming call queue

4 Caller abandons the call - tires of waiting

5 **ACDCallAbandoned** sent to DSP

— source and destination ACD group fields are the same

7.18 Scenario 14: NACD Call Deflected to Remote Node (Threshold Overflow)



7.18.1 Procedure 14

1 ACD call received by Node A

— call offered to ACD Group A

2 **ACDCallOffered(P)** sent to DSP (A)

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_CSTATUS field is five (threshold overflow)

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

3 Call deflected to ACD Group A's threshold route

4 Call offered to ACD group B (in Node B)

5 **ACDCallOffered(P)** sent to DSP (B)

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group B

— CALL_OFFERED_CSTATUS field is zero (call presented without being queued)

— CALL_OFFERED_CALLING_NUMBER is zero

7.18.1.1 Normal Call Release circled numbers

Note: Use circled numbers on the diagram.

6 Agent #3 selected

7 Agent #3 answers the call

8 **ACDCallAnswered** sent to DSP (B)

— CALL_ANSWERED_SGRP_DN is Primary ACD DN of group A

— CALL_ANSWERED_DGRP_DN is Primary ACD DN of group B

— CALL_ANSWERED_AGPOSID is agent #3

— CALL_ANSWERED_CSTATUS is zero (normal call)

— CALL_ANSWERED_CALLING_NUMBER is zero

9 Agent #3 releases the call

10 **ACDCallReleased** sent to DSP (B)

— CALL_RELEASED_GRP_DN is Primary ACD DN of group B

— CALL_RELEASED_AGPOSNID is agent #3

— CALL_RELEASED_CALLING_NUMBER is zero

Note 1: (P) = physical routing/queueing of call.

Note 2: (L) = Logical queueing of call, with physical routing only an answering agent is free.

7.18.1.2 If Caller abandons the call:

Steps 1. through 5. are the same as Section 7.18.1.

Note: Use boxed numbers on the diagram.

6 **ACDCallAbandoned** sent to DSP (B)

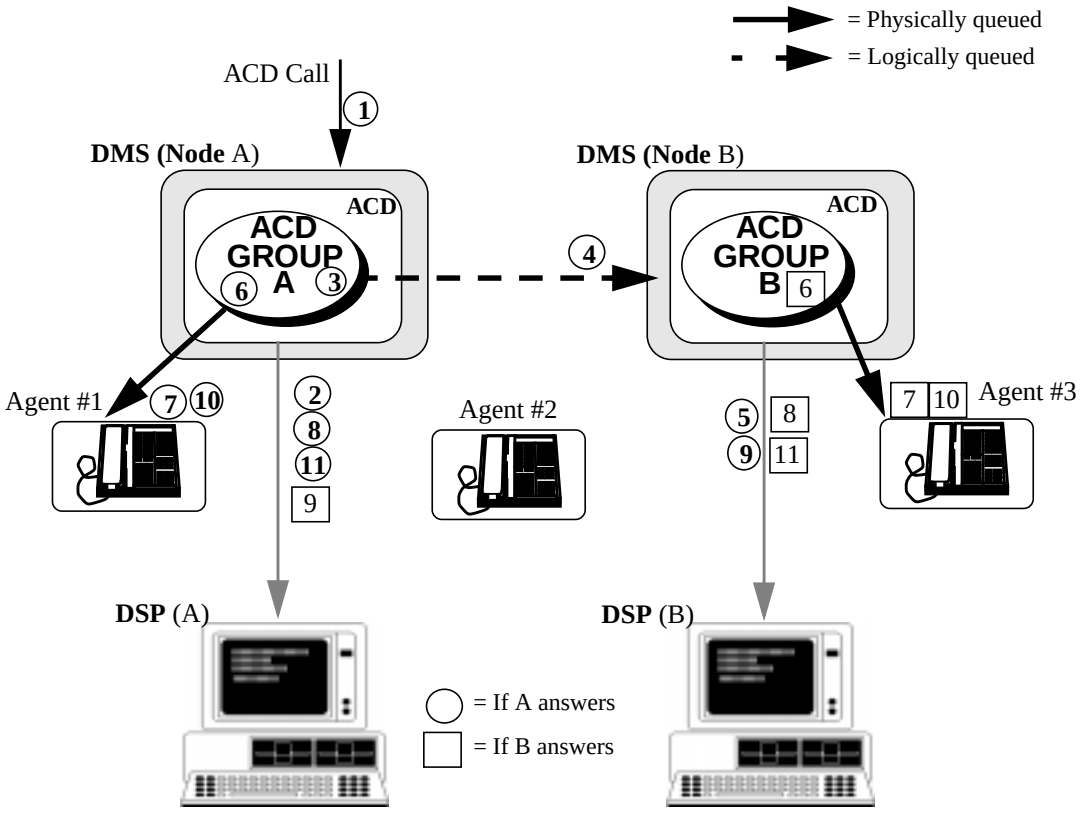
— CALL_ABANDONED_SGRP_DN is Primary ACD DN of group A

— CALL_ABANDONED_DGRP_DN is Primary ACD DN of group B

— CALL_ABANDONED_CSTATUS is zero (normal call)

— CALL_ABANDONED_CALLING_NUMBER is zero

7.19 Scenario 15(A): NACD Call Overflowed to Remote Node (Time Overflow) - A or B Answers



7.19.1 Procedure 15(A)

Note 1: (P) = Physical routing/queueing of call.

Note 2: (L) = Logical queueing of call, with physical routing only when an answering agent is free.

1 ACD call received by Node A - call offered to ACD Group A

2 **ACDCallOffered(P)** sent to DSP (A)

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_CSTATUS field is one (the ACD call is being queued at Group A's incoming call queue)

3 Call exceeds the threshold value and is time overflowed to ACD Group A's overflow route

4 Call offered to ACD group B (in Node B)

5 **ACDCallOffered(L)** sent to DSP (B)

— CALL_OFFERED_SGRP_DN is Primary ACD DN of Group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group B

— CALL_OFFERED_CSTATUS is six (logical queueing)

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

7.19.1.1 If A Answers:

Note: Use circled numbers on the diagram.

6 Agent #1 selected

7 Agent #1 answers the call

8 **ACDCallAnswered** sent to DSP (A)

— CALL_ANSWERED_SGRP_DN is Primary ACD DN of group A

— CALL_ANSWERED_DGRP_DN is Primary ACD DN of group A

— CALL_ANSWERED_AGPOSID is agent #1

— CALL_ANSWERED_CSTATUS is time overflowed

— CALL_ANSWERED_CALLING_NUMBER is the caller's directory number if operating with E911

9 **ACDCallNetworkAnswered** sent to DSP (B)

— CALL_NETWORK_ANSWERED_SGRP_DN is Primary ACD DN of group A

— CALL_NETWORK_ANSWERED_DGRP_DN is Primary ACD DN of group B

— CALL_NETWORK_ANSWERED_AGPOSID is agent #1

— CALL_NETWORK_ANSWERED_CSTATUS is L_QUEUED

— CALL_NETWORK_ANSWERED_ CALLING_NUMBER is zero

10 Agent #1 releases the call

11 **ACDCallReleased** sent to DSP (A)

— CALL_RELEASED_GRP_DN is Primary ACD DN of group A

— CALL_RELEASED_AGPOSNID is agent #1

— CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911

7.19.1.2 If B Answers:

Steps 1. through 5. are the same as Section 7.19.1.

Note: Use boxed numbers on the diagram.

6 Agent #3 selected

7 Agent #3 answers the call

8 **ACDCallAnswered** sent to DSP (B)

- CALL_ANSWERED_SGRP_DN is Primary ACD DN of group A
- CALL_ANSWERED_DGRP_DN is Primary ACD DN of group B
- CALL_ANSWERED_AGPOSID is agent #3
- CALL_ANSWERED_CSTATUS is L_QUEUED
- CALL_ANSWERED_CALLING_NUMBER is zero

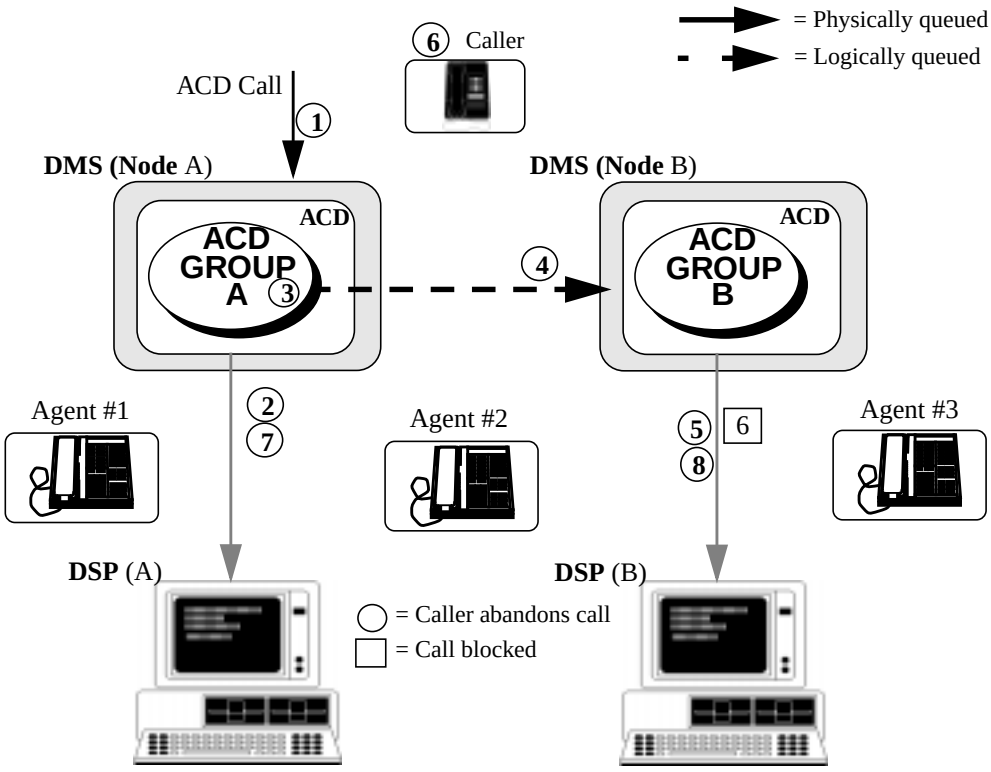
9 **ACDCallNetworkAnswered** sent to DSP (A)

- CALL_NETWORK_ANSWERED_SGRP_DN is Primary ACD DN of group A
- CALL_RELEASED_GRP_DN is Primary ACD DN of group B
- CALL_RELEASED_AGPOSNID is agent #3
- CALL_RELEASED_CALLING_NUMBER is zero
- CALL_NETWORK_ANSWERED_DGRP_DN is Primary ACD DN of group A
- CALL_NETWORK_ANSWERED_CSTATUS is time overflowed
- CALL_NETWORK_ANSWERED_ CALLING_NUMBER is zero

10 Agent #3 releases the call

11 **ACDCallReleased** sent to DSP (B)

7.20 Scenario 15(B): NACD Call Overflowed to Remote Node (Time Overflow) - Caller Abandons Call or Call Blocked



7.20.1 Procedure 15(B)

Note 1: (P) = Physical routing/queueing of call.

Note 2: (L) = Logical queueing of call, with physical routing only when an answering agent is free.

1 ACD call received by Node A - call offered to ACD Group A

2 **ACDCallOffered(P)** sent to DSP (A)

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_CSTATUS field is one (the ACD call is being queued at Group A's incoming call queue)

3 Call exceeds the threshold value and is time overflowed to ACD Group A's overflow route

4 Call offered to ACD group B (in Node B)

5 **ACDCallOffered(L)** sent to DSP (B)

— CALL_OFFERED_SGRP_DN is Primary ACD DN of Group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group B

— CALL_OFFERED_CSTATUS is six (logical queueing)

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

7.20.1.1 If Caller abandons the call:

Note: Use circled numbers on the diagram.

6 caller abandons the call

7 **ACDCallAbandoned** sent to DSP (A)

— CALL_ABANDONED_SGRP_DN is Primary ACD DN of group A

— CALL_ABANDONED_DGRP_DN is Primary ACD DN of group A

— CALL_ABANDONED_CSTATUS is zero (normal call)

— CALL_ABANDONED_CALLING_NUMBER is the caller's directory number if operating with E911

8 **ACDCallAbandoned** sent to DSP (B)

— CALL_ABANDONED_SGRP_DN is Primary ACD DN of group A

— CALL_ABANDONED_DGRP_DN is Primary ACD DN of group B

— CALL_ABANDONED_CSTATUS is L_QUEUED

— CALL_ABANDONED_CALLING_NUMBER is zero

7.20.1.2 If Call Blocked:

Steps 1. through 5. are the same as Section 7.20.1.

Note: Use boxed numbers on the diagram.

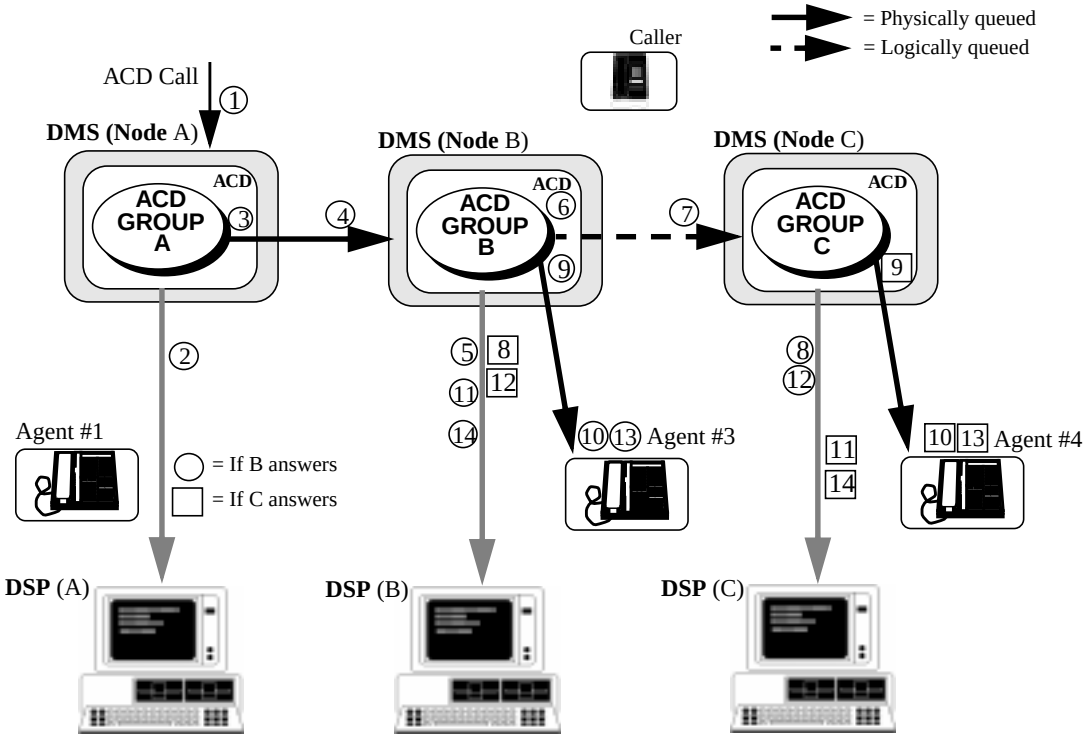
6 **ACDCallBlocked** sent to DSP (B)

— -CALL_BLOCKED_SGRP_DN is Primary ACD DN of group A

— -CALL_BLOCKED_DGRP_DN is Primary ACD DN of group B

— -CALL_BLOCKED_CALLING_NUMBER is zero

7.21 Scenario 16(A): NACD Call Deflected and Overflowed to Remote Node (Threshold/Time Overflow) - If B or C Answers



7.21.1 Procedure 16(A)

1 ACD call received by Node A - call offered to ACD Group A

2 **ACDCallOffered(P)** sent to DSP (A)

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_CSTATUS field is five (threshold overflow)

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

3 Call deflected to ACD Group A's overflow route

4 Call offered to ACD group B (in Node B)

5 **ACDCallOffered(P)** sent to DSP (B)

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group B

- CALL_OFFERED_CSTATUS field is one (the ACD call is being queued at group B incoming call queue)
- CALL_OFFERED_CALLING_NUMBER is zero

6 Call deflected to ACD Group B's overflow route

7 Call offered to ACD group C (in Node C)

8 **ACDCallOffered(L)** sent to DSP (C)

- CALL_OFFERED_SGRP_DN is Primary ACD DN of group B
- CALL_OFFERED_DGRP_DN is Primary ACD DN of group C
- CALL_OFFERED_CSTATUS is six (logical queueing)
- CALL_OFFERED_CALLING_NUMBER is zero

7.21.1.1 If B Answers:

Note: Use circled numbers on the diagram.

9 Agent #3 selected

10 Agent #3 answers the call

Note 1: (P) = Physical routing/queueing of call.

Note 2: (L) = Logical queueing of call, with physical routing only when an answering agent is free.

11 **ACDCallAnswered** sent to DSP (B)

- CALL_ANSWERED_SGRP_DN is Primary ACD DN of group B
- CALL_ANSWERED_DGRP_DN is Primary ACD DN of group B
- CALL_ANSWERED_AGPOSID is agent #3
- CALL_ANSWERED_CSTATUS is time overflowed
- CALL_ANSWERED_CALLING_NUMBER is zero

12 **ACDCallNetworkAnswered** sent to DSP (C)

- CALL_NETWORK_ANSWERED_SGRP_DN is Primary ACD DN of group B
- CALL_NETWORK_ANSWERED_DGRP_DN is Primary ACD DN of group C
- CALL_NETWORK_ANSWERED_CSTATUS is L_QUEUED
- CALL_NETWORK_ANSWERED_ CALLING_NUMBER is zero

13 Agent #3 releases the call

14 **ACDCallReleased** sent to DSP (B)

— CALL_RELEASED_GRP_DN is Primary ACD DN of group B

— CALL_RELEASED_AGPOSNID is agent #3

— CALL_RELEASED_CALLING_NUMBER is zero

7.21.1.2 If C Answers:

Steps 1. through 8. are the same as Section 7.21.1.

Note: Use boxed numbers on the diagram.

9 Agent #4 selected

10 Agent #4 answers the call

11 **ACDCallAnswered** sent to DSP (C)

— CALL_ANSWERED_SGRP_DN is Primary ACD DN of group B

— CALL_ANSWERED_DGRP_DN is Primary ACD DN of group C

— CALL_ANSWERED_AGPOSID is agent #4

— CALL_ANSWERED_CSTATUS is L_QUEUED

— CALL_ANSWERED_CALLING_NUMBER is zero

12 **ACDCallNetworkAnswered** sent to DSP (B)

— CALL_NETWORK_ANSWERED_SGRP_DN is Primary ACD DN of group B

— CALL_NETWORK_ANSWERED_DGRP_DN is Primary ACD DN of group B

— CALL_NETWORK_ANSWERED_CSTATUS is time overflowed

— CALL_NETWORK_ANSWERED_ CALLING_NUMBER is zero

13 Agent #4 releases the call

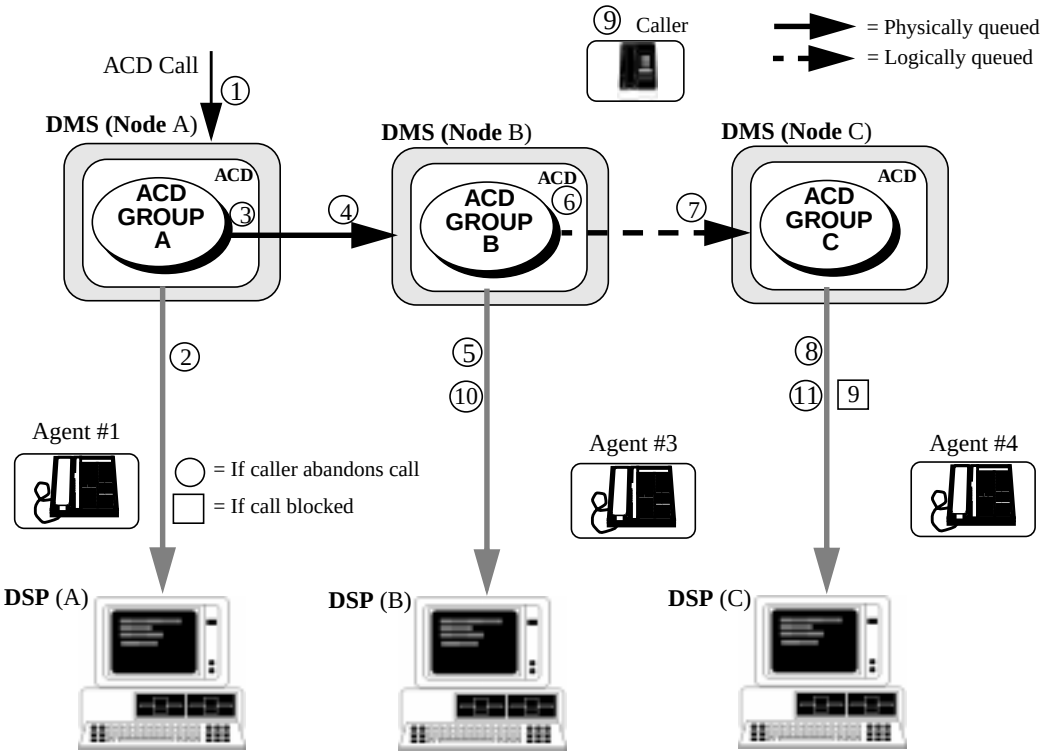
14 ACDCallReleased sent to DSP (C)

— CALL_RELEASED_GRP_DN is Primary ACD DN of group C

— CALL_RELEASED_AGPOSNID is agent #4

— CALL_RELEASED_CALLING_NUMBER is zero

7.22 Scenario 16(B): NACD Call Deflected and Overflowed to Remote Node (Threshold/Time Overflow) - Caller Abandons Call or Call Blocked



7.22.1 Procedure 16(B)

1 ACD call received by Node A - call offered to ACD Group A

2 **ACDCallOffered(P)** sent to DSP (A)

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_CSTATUS field is five (threshold overflow)

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

3 Call deflected to ACD Group A's overflow route

4 Call offered to ACD group B (in Node B)

5 **ACDCallOffered(P)** sent to DSP (B)

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group B

— CALL_OFFERED_CSTATUS field is one (the ACD call is being queued at group B incoming call queue)

— CALL_OFFERED_CALLING_NUMBER is zero

6 Call deflected to ACD Group B's overflow route

7 Call offered to ACD group C (in Node C)

8 **ACDCallOffered(L)** sent to DSP (C)

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group B

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group C

— CALL_OFFERED_CSTATUS is six (logical queueing)

— CALL_OFFERED_CALLING_NUMBER is zero

7.22.1.1 If Caller abandons the call:

Note: Use circled numbers on the diagram.

9 Caller abandons the call

10 **ACDCallAbandoned** sent to DSP (B)

— CALL_ABANDONED_SGRP_DN is Primary ACD DN of group

— CALL_ABANDONED_DGRP_DN is Primary ACD DN of group B

— CALL_ABANDONED_CSTATUS is time overflow

— CALL_ABANDONED_CALLING_NUMBER is zero

11 **ACDCallAbandoned** sent to DSP (C)

— CALL_ABANDONED_SGRP_DN is Primary ACD DN of group B

— CALL_ABANDONED_DGRP_DN is Primary ACD DN of group C

— CALL_ABANDONED_CSTATUS is L_QUEUED

— CALL_ABANDONED_CALLING_NUMBER is zero

7.22.1.2 If Call Blocked:

Steps 1. through 8. are the same as Section 7.22.1.

Note: Use boxed numbers on the diagram.

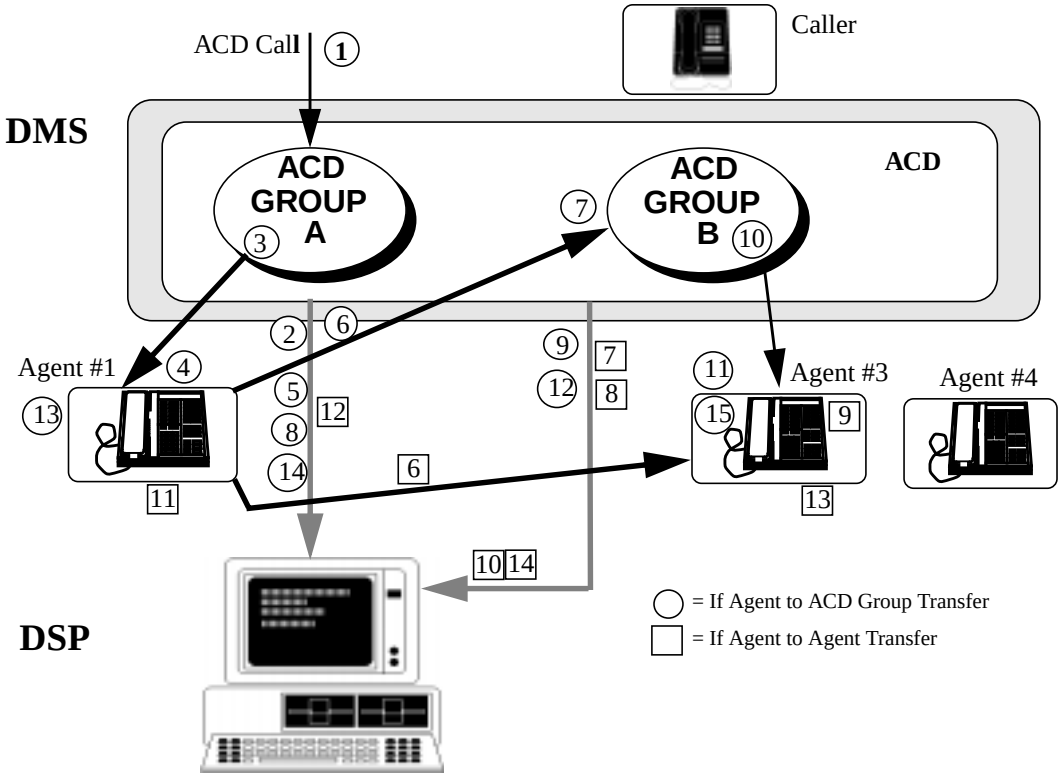
9 **ACDCallBlocked** sent to DSP (C)

— CALL_BLOCKED_SGRP_DN is Primary ACD DN of group B

— CALL_BLOCKED_DGRP_DN is Primary ACD DN of group C

— CALL_BLOCKED_CALLING_NUMBER is zero

7.23 Scenario 17(A): Agent to ACD Group/Agent to Agent Transfer without Recall Feature



7.23.1 Procedure 17(A)

1 ACD call received by the switch - call offered to ACD Group A

2 **ACDCallOffered** sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_CSTATUS field is zero (call to be presented to agent position without queueing)

— CALL_OFFERED_ACD_DN is the Primary or Supplementary ACD DN of the call at the source group

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

3 Agent #1 selected

4 Agent #1 answers the call

5 **ACDCallAnswered** sent to DSP

— CALL_ANSWERED_SGRP_DN is Primary ACD DN of group A

— CALL_ANSWERED_DGRP_DN is Primary ACD DN of group A

— CALL_ANSWERED_AGPOSID is agent #1

— CALL_ANSWERED_CSTATUS is zero i.e., normal

— CALL_ANSWERED_CALLING_NUMBER is the caller's directory number

7.23.1.1 Agent to ACD Group Transfer:

Note: Use circled numbers on the diagram.

6 agent #1 transfers call to ACD Group B

7 Call offered to ACD Group B

8 **ACDCallTransferred** sent to DSP

— CALL_TRANSFER_SRC_DN is Primary ACD DN of group A

— CALL_TRANSFER_DST_DN is Primary ACD DN of group B

— CALL_TRANSFER_SRC_AGPOSNID is agent #1

— CALL_TRANSFER_STATUS is one (transfer out from Agent to ACD group)

— CALL_TRANSFER_DIFF_CUST_GROUP is zero i.e., transfer within the same customer group

— CALL_TRANSFER_CALLING_NUMBER is the caller's directory number

9 **ACDCallOffered** sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group B

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group B

— CALL_OFFERED_CSTATUS field is twelve (transferred call to be presented to agent position without being queued).

— CALL_TRANSFER_STATUS is one (transfer in to ACD group from Agent)

— CALL_TRANSFER_DIFF_CUST_GROUP is zero i.e., transfer within the same customer group

— CALL_TRANSFERRING_DN is Primary ACD DN of group A

— CALL_TRANSFERRING_AGPOSID is agent #1

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

10 Agent #3 selected

11 Agent #3 answers the call

12 **ACDCallAnswered** sent to DSP

- CALL_ANSWERED_SGRP_DN is Primary ACD DN of group B
- CALL_ANSWERED_DGRP_DN is Primary ACD DN of group B
- CALL_ANSWERED_AGPOSID is agent #3
- CALL_ANSWERED_CSTATUS is CXR
- CALL_ANSWERED_CALLING_NUMBER is the caller's directory number if operating with E911

13 Agent #1 releases the call

14 **ACDCallReleased** sent to DSP

- CALL_RELEASED_GRP_DN is Primary ACD DN of group A
- CALL_RELEASED_AGPOSNID is agent #1
- CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911

15 Agent #3 releases the call

16 **ACDCallReleased** sent to DSP

- CALL_RELEASED_GRP_DN is Primary ACD DN of group B
- CALL_RELEASED_AGPOSNID is agent #3
- CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911

7.23.1.2 Agent to Agent:

Steps 1. through 5. are the same as Section 7.23.1.

Note: Use boxed numbers on the diagram.

6 Agent #1 transfers call to Agent #3.

7 **ACDCallTransferred** sent to DSP

- CALL_TRANSFER_SRC_DN is Primary ACD DN of group B
- CALL_TRANSFER_DST_DN is Primary ACD DN of group B
- CALL_TRANSFER_SRC_AGPOSNID is agent #1
- CALL_TRANSFER_DST_AGPOSNID is agent #3
- CALL_TRANSFER_STATUS field is zero (Agent to Agent)
- CALL_TRANSFER_DIFF_CUST_GROUP is zero i.e., transfer within the same customer group

— CALL_TRANSFER_CALLING_NUMBER is the caller's directory number if operating with E911

8 **ACDCallOffered** sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group B

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group B

— CALL_OFFERED_CSTATUS field is twelve (transferred call to be presented to agent position without queueing)

— CALL_TRANSFER_STATUS is zero (transfer in to Agent from Agent)

— CALL_TRANSFER_DIFF_CUST_GROUP is zero i.e., transfer within the same customer group

— CALL_TRANSFERRING_DN is Primary ACD DN of group A

— CALL_TRANSFERRING_AGPOSID is agent #1

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

9 Agent #3 answers the call

10 **ACDCallAnswered** sent to DSP

— CALL_ANSWERED_SGRP_DN is Primary ACD DN of group B

— CALL_ANSWERED_DGRP_DN is Primary ACD DN of group B

— CALL_ANSWERED_AGPOSID is agent #3

— CALL_ANSWERED_CSTATUS is CXR

— CALL_ANSWERED_CALLING_NUMBER is the caller's directory number if operating with E911

11 Agent #1 releases the call

12 **ACDCallReleased** sent to DSP

— CALL_RELEASED_GRP_DN is Primary ACD DN of group A

— CALL_RELEASED_AGPOSNID is agent #1

— CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911

13 Agent #3 releases the call

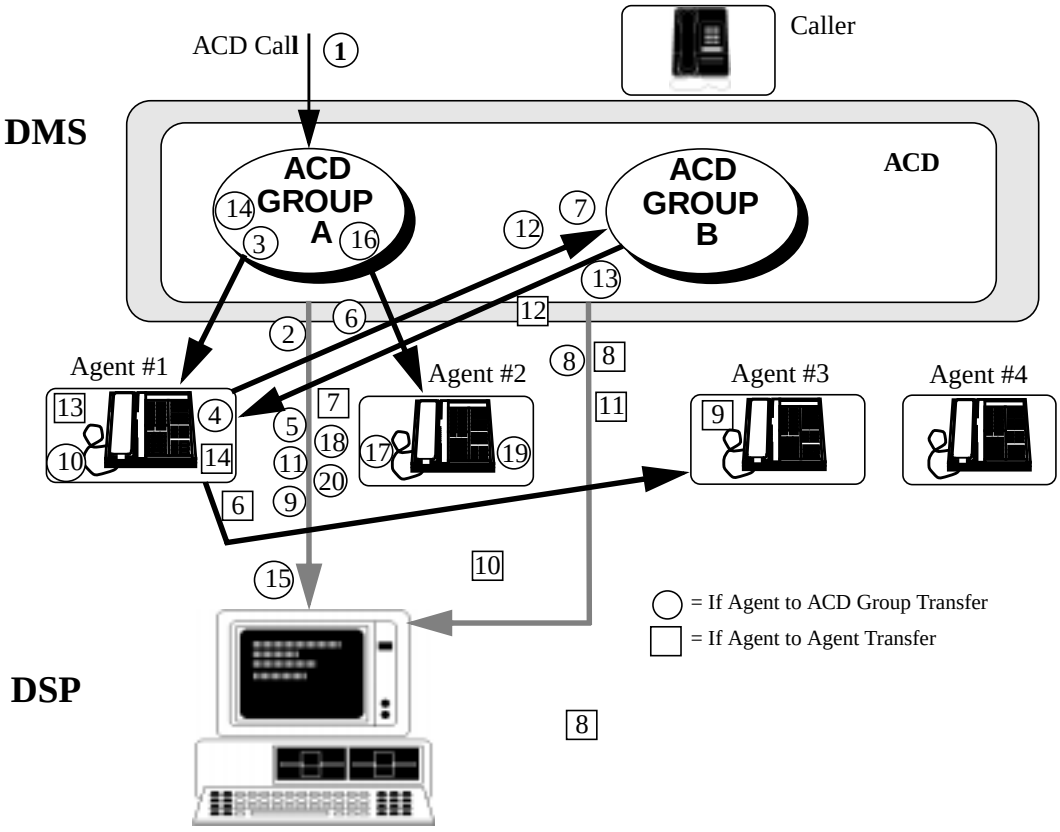
14 **ACDCallReleased** sent to DSP

— CALL_RELEASED_GRP_DN is Primary ACD DN of group B

— CALL_RELEASED_AGPOSNID is agent #3

— CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911

7.24 Scenario 17(B): Agent to ACD Group/Agent to Agent Transfer with Recall Feature



7.24.1 Procedure 17(B)

1 ACD call received by the switch - call offered to ACD Group A

2 **ACDCallOffered** sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_CSTATUS field is zero (call to be presented to agent position without queueing)

— CALL_OFFERED_ACD_DN is the Primary or Supplementary ACD DN of the call at the source group

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

3 Agent #1 selected

4 Agent #1 answers the call

5 **ACDCallAnswered** sent to DSP

— CALL_ANSWERED_SGRP_DN is Primary ACD DN of group A

— CALL_ANSWERED_DGRP_DN is Primary ACD DN of group A

— CALL_ANSWERED_AGPOSID is agent #1

— CALL_ANSWERED_CSTATUS is zero i.e., normal

— CALL_ANSWERED_CALLING_NUMBER is the caller's directory number

7.24.1.1 Agent to ACD Group Transfer with Recall:

Note: Use circled numbers on the diagram.

6 Agent #1 transfers call to ACD Group B, the call transfer recall timer is started.

7 Call offered to ACD Group B

8 **ACDCallOffered** sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group B

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group B

— CALL_OFFERED_CSTATUS field is thirteen (transferred call is being queued at the destination group)

— CALL_TRANSFER_STATUS is one (transfer in to ACD group from Agent)

— CALL_TRANSFER_DIFF_CUST_GROUP is zero i.e., transfer within the same customer group

— CALL_TRANSFERRING_DN is Primary ACD DN of group A

— CALL_TRANSFERRING_AGPOSID is agent #1

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

9 **ACDCallTransferred** sent to DSP

— CALL_TRANSFER_SRC_DN is Primary ACD DN of group A

— CALL_TRANSFER_DST_DN is Primary ACD DN of group B

— CALL_TRANSFER_SRC_AGPOSNID is agent #1

— CALL_TRANSFER_STATUS field is one (Agent to ACD group)

- CALL_TRANSFER_DIFF_CUST_GROUP is zero i.e., transfer within the same customer group
- CALL_TRANSFER_CALLING_NUMBER is the caller's directory number if operating with E911

10 Agent #1 releases the call

11 **ACDCallReleased** sent to DSP

- CALL_RELEASED_GRP_DN is Primary ACD DN of group A
- CALL_RELEASED_AGPOSNID is agent #1
- CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911

12 Call transfer recall timer expires and no agent becomes idle in ACD Group B.

13 The call is redirected to Agent #1.

14 Agent #1 PAQ is full, the call is queued to ACD Group A with highest priority (0).

15 **ACDCallOffered** sent to DSP

- CALL_OFFERED_SGRP_DN is Primary ACD DN of group A
- CALL_OFFERED_DGRP_DN is Primary ACD DN of group A
- CALL_OFFERED_CSTATUS field is 18 (transfer recall)).
- CALL_RECALL_DN = Group B ACD DN
- CALL_RECALLED_AGPOSNID = Agent # 1 position ID

16 Agent #2 selected

17 Agent #2 answers the call

18 **ACDCallAnswered** sent to DSP

- CALL_ANSWERED_SGRP_DN is Primary ACD DN of group A
- CALL_ANSWERED_DGRP_DN is Primary ACD DN of group A
- CALL_ANSWERED_AGPOSID is agent #2
- CALL_ANSWERED_CSTATUS is CXR
- CALL_ANSWERED_CALLING_NUMBER is the caller's directory number if operating with E911

19 Agent #2 releases the call

20 **ACDCallReleased** sent to DSP

- CALL_RELEASED_GRP_DN is Primary ACD DN of group A

— CALL_RELEASED_AGPOSNID is agent #2

— CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911

7.24.1.2 Agent to Agent Transfer with Recall:

Steps 1. through 5. are the same as Section 7.24.1.

Note: Use boxed numbers on the diagram.

6 Agent #1 transfers call to Agent #3, the call transfer recall timer is started.

7 **ACDCallTransferred** sent to DSP

— CALL_TRANSFER_SRC_DN is Primary ACD DN of group A

— CALL_TRANSFER_DST_DN is Primary ACD DN of group B

— CALL_TRANSFER_SRC_AGPOSNID is agent #1

— CALL_TRANSFER_DST_AGPOSNID is agent #3

— CALL_TRANSFER_STATUS field is zero (Agent to Agent)

— CALL_TRANSFER_DIFF_CUST_GROUP is zero i.e., transfer within the same customer group

— CALL_TRANSFER_CALLING_NUMBER is the caller's directory number if operating with E911

8 **ACDCallOffered** sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group B

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group B

— CALL_OFFERED_CSTATUS field is thirteen (transferred call is being queued at the destination group)

— CALL_TRANSFER_STATUS is zero (transfer in to Agent from Agent)

— CALL_TRANSFER_DIFF_CUST_GROUP is zero i.e., transfer within the same customer group

— CALL_TRANSFERRING_DN is Primary ACD DN of group A

— CALL_TRANSFERRING_AGPOSID is agent #1

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

9 Agent #1 releases the call

10 **ACDCallReleased** sent to DSP

— CALL_RELEASED_GRP_DN is Primary ACD DN of group A

— CALL_RELEASED_AGPOSNID is agent #1

— CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911

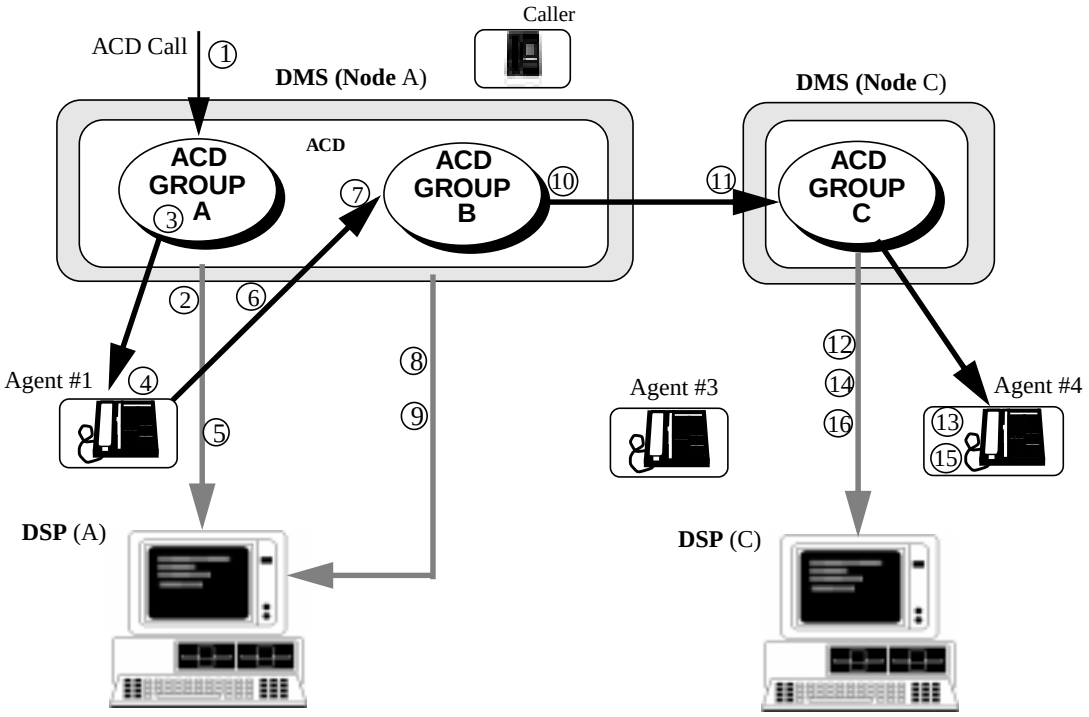
11 The call transfer recall timer expires and Agent #3 does not answer the call

12 The call is redirected to Agent #1.

13 Agent #1 answers the call

14 Agent #1 releases the call

7.25 Scenario 17(C): Agent to ACD Group Transferred Call is NACD Deflected (Threshold Overflow) (continued)



7.25.1 Procedure 17(C)

DMS Node A is NACD'ed with DMS Node C.

Note 1: (P) = Physical routing/queueing of call.

Note 2: (L) = Logical queueing of call, with physical routing only an answering agent is free.

1 ACD call received by the switch - call offered to ACD Group A

2 **ACDCallOffered** sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

- — CALL_OFFERED_DGRP_DN is Primary ACD DN of group A
- — CALL_OFFERED_CSTATUS field is zero (call to be presented to agent position without queueing)
- — CALL_OFFERED_ACD_DN is the Primary or Supplementary ACD DN of the call at the source group
- — CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

3 Agent #1 selected

4 Agent #1 answers the call

5 **ACDCallAnswered** sent to DSP

- — CALL_ANSWERED_SGRP_DN is Primary ACD DN of group A
- — CALL_ANSWERED_DGRP_DN is Primary ACD DN of group A
- — CALL_ANSWERED_AGPOSID is agent #1
- — CALL_ANSWERED_CSTATUS is zero i.e., normal
- — CALL_ANSWERED_CALLING_NUMBER is the caller's directory number

6 Agent #1 transfers call to ACD Group B

7 Call offered to ACD Group B

8 **ACDCallTransferred** sent to DSP

- — CALL_TRANSFER_SRC_DN is Primary ACD DN of group A
- — CALL_TRANSFER_DST_DN is Primary ACD DN of group B
- — CALL_TRANSFER_SRC_AGPOSNID is agent #1
- — CALL_TRANSFER_STATUS is one (transfer out from Agent to ACD group)
- — CALL_TRANSFER_DIFF_CUST_GROUP is zero i.e., transfer within the same customer group
- — CALL_TRANSFER_CALLING_NUMBER is the caller's directory number

9 **ACDCallOffered** sent to DSP A

- — CALL_OFFERED_SGRP_DN is Primary ACD DN of group B
- — CALL_OFFERED_DGRP_DN is Primary ACD DN of group B
- — CALL_OFFERED_CSTATUS field is five (Threshold Overflow)
- — CALL_TRANSFER_STATUS is one (transfer in to ACD group from Agent)

- CALL_TRANSFER_DIFF_CUST_GROUP is zero i.e., transfer within the same customer group
- CALL_TRANSFERRING_DN is Primary ACD DN of group A
- CALL_TRANSFERRING_AGPOSID is agent #1
- CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

10 Call deflected to ACD group B's overflow route

11 Call offered to ACD group C in Node C.

12 **ACDCallOffered(P)** sent to DSP (C)

- CALL_OFFERED_SGRP_DN is Primary ACD DN of group B
- CALL_OFFERED_DGRP_DN is Primary ACD DN of group C
- CALL_OFFERED_CSTATUS field is twelve (the ACD transferred call terminated on an agent position at ACD Group C without queueing)
- CALL_TRANSFER_STATUS is one (transfer in to ACD group from Agent)
- CALL_TRANSFER_DIFF_CUST_GROUP is zero i.e., transfer within the same customer group
- CALL_TRANSFERRING_DN is Primary ACD DN of group
- CALL_TRANSFERRING_AGPOSID is agent #1
- CALL_OFFERED_CALLING_NUMBER is zero

13 Agent #4 answers the call

14 **ACDCallAnswered** sent to DSP (C)

- CALL_ANSWERED_SGRP_DN is Primary ACD DN of group B
- CALL_ANSWERED_DGRP_DN is Primary ACD DN of group C
- CALL_ANSWERED_AGPOSID is agent #4
- CALL_ANSWERED_CSTATUS is CXR
- CALL_ANSWERED_CALLING_NUMBER is the caller's directory number if operating with E911

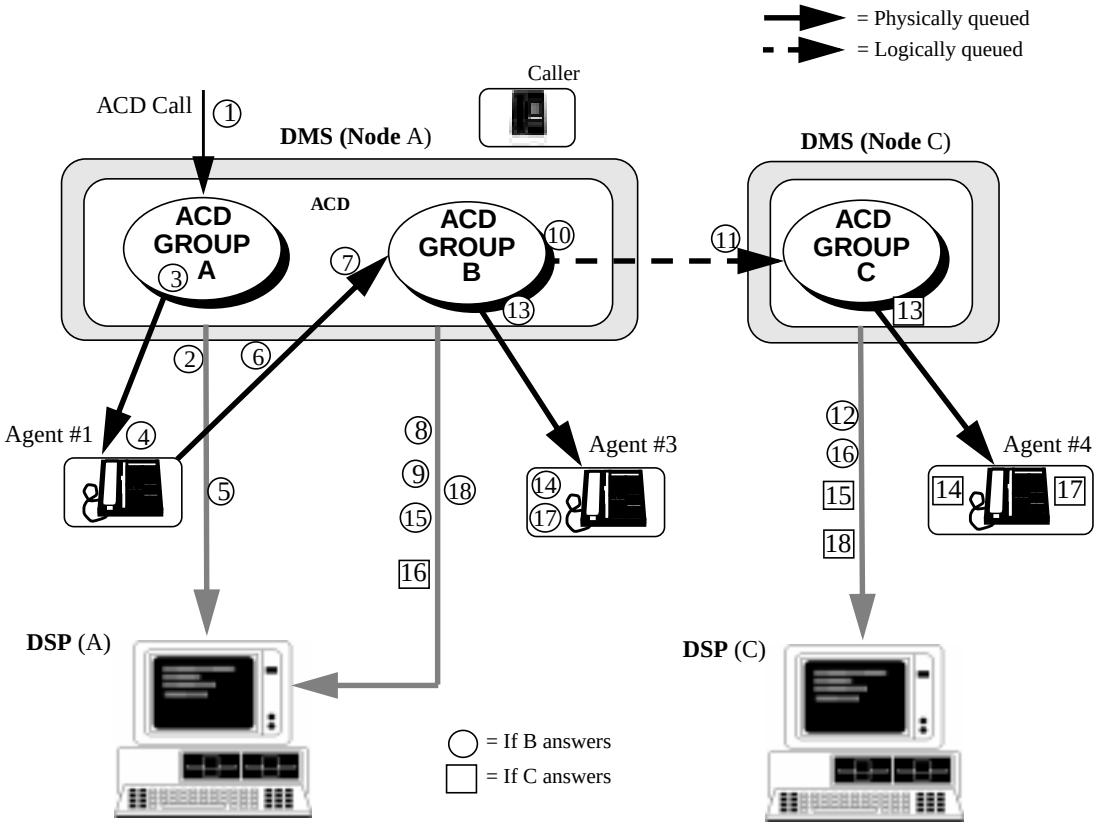
15 Agent #4 releases the call

16 ACDCallReleased sent to DSP (C)

- CALL_RELEASED_GRP_DN is Primary ACD DN of group C
- CALL_RELEASED_AGPOSNID is agent #4

— CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911

7.26 Scenario 17(D): Agent to ACD Group Transferred Call is NACD Overflowed (Time Overflow)



7.26.1 Procedure 17(D)

DMS Node A is NACD'ed with DMS Node C

Note 1: (P) = Physical routing/queueing of call.

Note 2: (L) = Logical queueing of call, with physical routing only an answering agent is free.

1 ACD call received by the switch - call offered to ACD Group A

2 **ACDCallOffered** sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group A

- — CALL_OFFERED_CSTATUS field is zero (call to be presented to agent position without queueing)
- — CALL_OFFERED_ACD_DN is the Primary or Supplementary ACD DN of the call at the source group
- — CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

3 Agent #1 selected

4 Agent #1 answers the call

5 **ACDCallAnswered** sent to DSP

- — CALL_ANSWERED_SGRP_DN is Primary ACD DN of group A
- — CALL_ANSWERED_DGRP_DN is Primary ACD DN of group A
- — CALL_ANSWERED_AGPOSID is agent #1
- — CALL_ANSWERED_CSTATUS is zero i.e., normal
- — CALL_ANSWERED_CALLING_NUMBER is the caller's directory number

6 agent #1 transfers call to ACD Group B

7 Call offered to ACD Group B

8 **ACDCallTransferred** sent to DSP

- — CALL_TRANSFER_SRC_DN is Primary ACD DN of group A
- — CALL_TRANSFER_DST_DN is Primary ACD DN of group B
- — CALL_TRANSFER_SRC_AGPOSNID is agent #1
- — CALL_TRANSFER_STATUS is one (transfer out from Agent to ACD group)
- — CALL_TRANSFER_DIFF_CUST_GROUP is zero i.e., transfer within the same customer group
- — CALL_TRANSFER_CALLING_NUMBER is the caller's directory number

9 **ACDCallOffered** sent to DSP A

- — CALL_OFFERED_SGRP_DN is Primary ACD DN of group B
- — CALL_OFFERED_DGRP_DN is Primary ACD DN of group B
- — CALL_OFFERED_CSTATUS field is thirteen (the ACD transferred call is being queued at ACD Group B)
- — CALL_TRANSFER_STATUS is one (transfer in to ACD group from Agent)

- — CALL_TRANSFER_DIFF_CUST_GROUP is zero i.e., transfer within the same customer group
- — CALL_TRANSFERRING_DN is Primary ACD DN of group A
- — CALL_TRANSFERRING_AGPOSID is agent #1
- — CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

10 Call time overflowed to ACD group B's overflow route

11 Call offered to ACD group C in Node C.

12 **ACDCallOffered(L)** sent to DSP (C)

- — CALL_OFFERED_SGRP_DN is Primary ACD DN of group B
- — CALL_OFFERED_DGRP_DN is Primary ACD DN of group C
- — CALL_OFFERED_CSTATUS field is six (call is being logically queued at the destination ACD group)
- — CALL_OFFERED_CALLING_NUMBER is zero
- — CALL_TRANSFER_STATUS is one (transfer in to ACD group from Agent)
- — CALL_TRANSFER_DIFF_CUST_GROUP is zero i.e., transfer within the same customer group
- — CALL_TRANSFERRING_DN is Primary ACD DN of group
- — CALL_TRANSFERRING_AGPOSID is agent #1

7.26.1.1 If B Answers:

Note: Use circled numbers on the diagram.

13 Agent #3 is selected

14 Agent #3 answers the call

15 **ACDCallAnswered** sent to DSP (A)

- — CALL_ANSWERED_SGRP_DN is Primary ACD DN of group B
- — CALL_ANSWERED_DGRP_DN is Primary ACD DN of group B
- — CALL_ANSWERED_AGPOSID is agent #3
- — CALL_ANSWERED_CSTATUS is TIME OVFL
- — CALL_ANSWERED_CALLING_NUMBER is the caller's directory number if operating with E911

16 **ACDCallNetworkAnswered** sent to DSP (C)

- — CALL_NETWORK_ANSWERED_SGRP_DN is Primary ACD DN of group B
- — CALL_NETWORK_ANSWERED_DGRP_DN is Primary ACD DN of group C
- — CALL_NETWORK_ANSWERED_CSTATUS is L_QUEUED
- — CALL_NETWORK_ANSWERED_ CALLING_NUMBER is zero

17 Agent #3 releases the call

18 **ACDCallReleased** sent to DSP (A)

- — CALL_RELEASED_GRP_DN is Primary ACD DN of group B
- — CALL_RELEASED_AGPOSNID is agent #3
- — CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911

7.26.1.2 If C Answers:

Steps 1. through 12. are the same as Section 7.26.1.

Note: Use boxed numbers on the diagram.

13 Agent #4 is selected

14 Agent #4 answers the call

15 **ACDCallAnswered** sent to DSP (C)

- — CALL_ANSWERED_SGRP_DN is Primary ACD DN of group B
- — CALL_ANSWERED_DGRP_DN is Primary ACD DN of group C
- — CALL_ANSWERED_AGPOSID is agent #4
- — CALL_ANSWERED_CSTATUS is CXR and L_QUEUED
- — CALL_ANSWERED_CALLING_NUMBER is zero

16 ACDCallNetworkAnswered sent to DSP (A)

- — CALL_NETWORK_ANSWERED_SGRP_DN is Primary ACD DN of group B
- — CALL_NETWORK_ANSWERED_DGRP_DN is Primary ACD DN of group B
- — CALL_NETWORK_ANSWERED_CSTATUS is time overflowed
- — CALL_NETWORK_ANSWERED_ CALLING_NUMBER is zero

17 Agent #4 releases the call

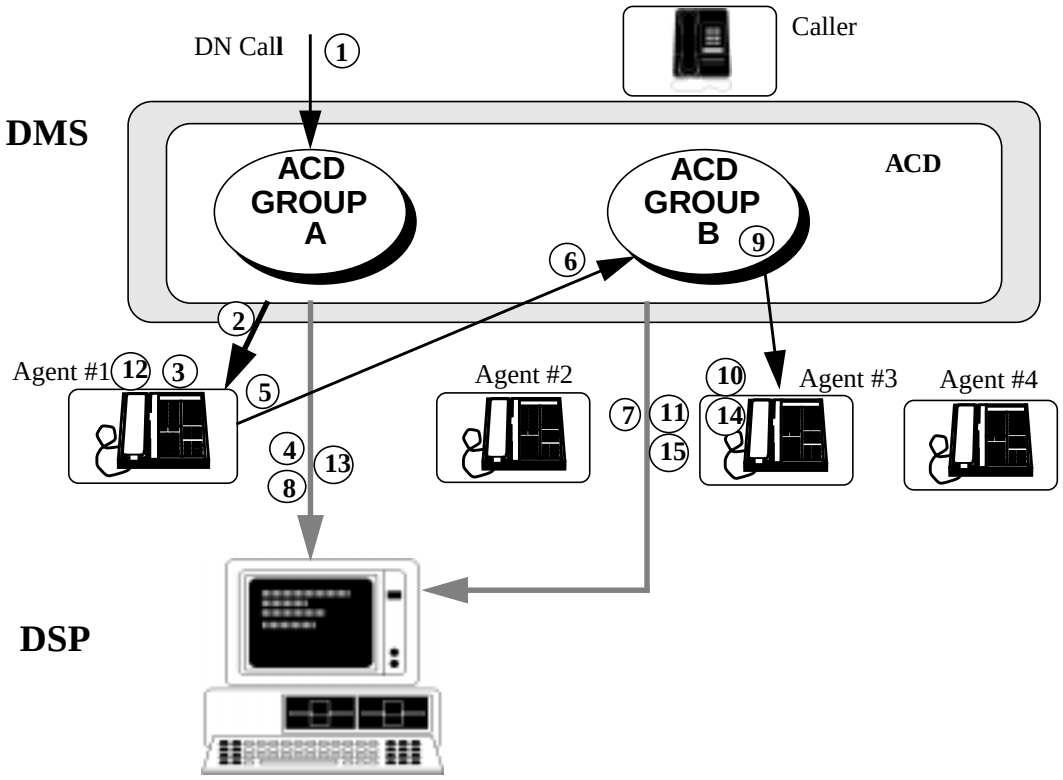
18 **ACDCallReleased** sent to DSP (C)

- — CALL_RELEASED_GRP_DN is Primary ACD DN of group C

— CALL_RELEASED_AGPOSNID is agent #4

— CALL_RELEASED_CALLING_NUMBER is zero

7.27 Scenario 18(A): SDN to ACD Group Transfer without Recall Feature)



7.27.1 Procedure 18(A)

1 Non-ACD (DN Call) received by the switch

2 Agent #1 alerted

3 Agent #1 presses the DN key to answer the incoming call

4 **AgentPositionEvent** sent to DSP

— ACD_GROUP_DN Primary ACD DN of group A

— POSITION_EVENT_AGPOSNID is the position ID of agent #1

— POSITION_EVENT_EVENTTYPE field is four (answer a DN call)

— POSITION_EVENT_DN_TAG field is two (agent used an SDN key)

5 agent #1 transfers call to ACD Group B

6 Call offered to ACD Group B

7 **ACDCallOffered** sent to DSP

- CALL_OFFERED_SGRP_DN is Primary ACD DN of group B
- CALL_TRANSFER_DIFF_CUST_GROUP is zero i.e., transfer within the same customer group
- CALL_TRANSFERRING_DN is Primary ACD DN of group
- CALL_TRANSFERRING_AGPOSID is agent #1
- CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911
- CALL_OFFERED_DGRP_DN is Primary ACD DN of group B
- CALL_OFFERED_CSTATUS field is twelve (transferred call to be presented to agent position without being queued)
- CALL_TRANSFER_STATUS is two (transfer in to ACD group from SDN)

8 **ACDCallTransferred** sent to DSP

- CALL_TRANSFER_SRC_DN is agent #1's SDN
- CALL_TRANSFER_DST_DN is Primary ACD DN of group B
- CALL_TRANSFER_STATUS is four (transfer out from SDN to ACD Group)
- CALL_TRANSFER_DIFF_CUST_GROUP is zero i.e., transfer within the same customer group
- CALL_TRANSFER_CALLING_NUMBER is the caller's directory number if operating with E911

9 Agent #3 selected

10 Agent #3 answers the call

11 **ACDCallAnswered** sent to DSP

- CALL_ANSWERED_SGRP_DN is Primary ACD DN of group B
- CALL_ANSWERED_DGRP_DN is Primary ACD DN of group B
- CALL_ANSWERED_AGPOSID is agent #3
- CALL_ANSWERED_CSTATUS is CXR
- CALL_ANSWERED_CALLING_NUMBER is the caller's directory number if operating with E911

12 agent #1 releases the call

13 **AgentPositionEvent** sent to DSP

- ACD_GROUP_DN Primary ACD DN of group A

— POSITION_EVENT_AGPOSNID is four the position ID of agent #1

— POSITION_EVENT_EVENTTYPE field is six (release a DN call)

— POSITION_EVENT_DN_TAG field is zero

14 Agent #3 releases the call

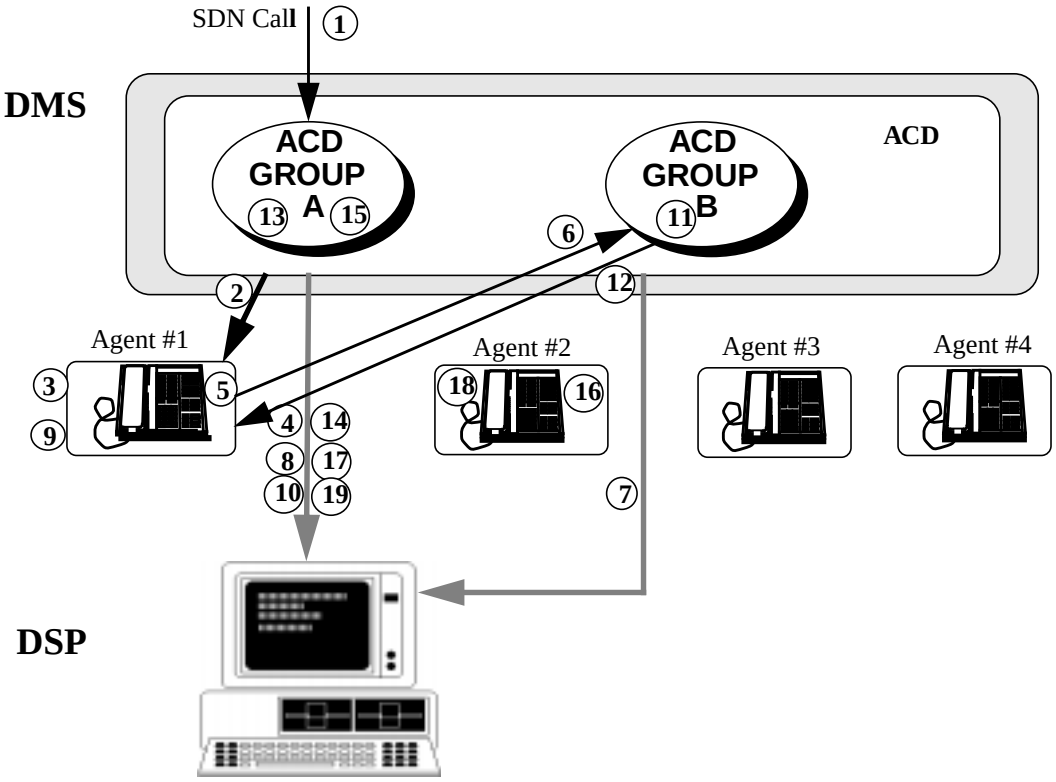
15 **ACDCallReleased** sent to DSP

— CALL_RELEASED_GRP_DN is Primary ACD DN of group B

— CALL_RELEASED_AGPOSNID is agent #1

— CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911

7.28 Scenario 18(B): SDN to ACD Group Transfer with Recall Feature



7.28.1 Procedure 18(B)

1 Non-ACD (DN Call) received by the switch

2 Agent #1 alerted

3 Agent #1 presses the DN key to answer the incoming call

4 **AgentPositionEvent** sent to DSP

- ACD_GROUP_DN Primary ACD DN of group A
- POSITION_EVENT_AGPOSNID is the position ID of agent #1
- POSITION_EVENT_EVENTTYPE field is four (answer a DN call)
- POSITION_EVENT_DN_TAG field is two (agent used an SDN key)

5 agent #1 transfers call to ACD Group B, call transfer recall timer is started

6 Call offered to ACD Group B

7 **ACDCallOffered** sent to DSP

- CALL_OFFERED_SGRP_DN is Primary ACD DN of group B
- CALL_OFFERED_DGRP_DN is Primary ACD DN of group B
- CALL_OFFERRED_CSTATUS field is twelve (transferred call to be presented to agent position without being queued)
- CALL_TRANSFER_STATUS field is two (transfer into ACD group from SDN)
- CALL_TRANSFER_DIFF_CUST_GROUP is zero i.e., transfer within the same customer group
- CALL_TRANSFERRING_DN is Primary ACD DN of group A
- CALL_TRANSFERRING_AGPOSID is agent #1
- CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

8 **ACDCallTransferred** sent to DSP

- CALL_TRANSFER_SRC_DN is agent #1's SDN
- CALL_TRANSFER_DST_DN is Primary ACD DN of group B
- CALL_TRANSFER_STATUS is four (transfer out from SDN to ACD Group)
- CALL_TRANSFER_DIFF_CUST_GROUP is zero i.e., transfer within the same customer group
- CALL_TRANSFER_CALLING_NUMBER is the caller's directory number if operating with E911

9 Agent #1 releases the call

10 **ACDCallReleased** sent to DSP

- CALL_RELEASED_GRP_DN is Primary ACD DN of group A
- CALL_RELEASED_AGPOSNID is agent #1's position ID
- CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911

11 Call transfer recall timer expires an d Agent #3 does not answer

12 The call is redirected to Agent #1.

13 Agent #1 PAQ is full, the call is queued to ACD Group A with highest priority (0).

14 **ACDCallOffered** sent to DSP

- CALL_OFFERED_SGRP_DN is Primary ACD DN of group A
- CALL_OFFERED_DGRP_DN is Primary ACD DN of group A
- CALL_OFFERED_CSTATUS field is 18 (transfer recall)).
- CALL_RECALL_DN = Group B ACD DN
- CALL_RECALLED_AGPOSNID = Agent #1's position ID

15 Agent #2 selected

16 Agent #2 answers the call

17 **ACDCallAnswered** sent to DSP

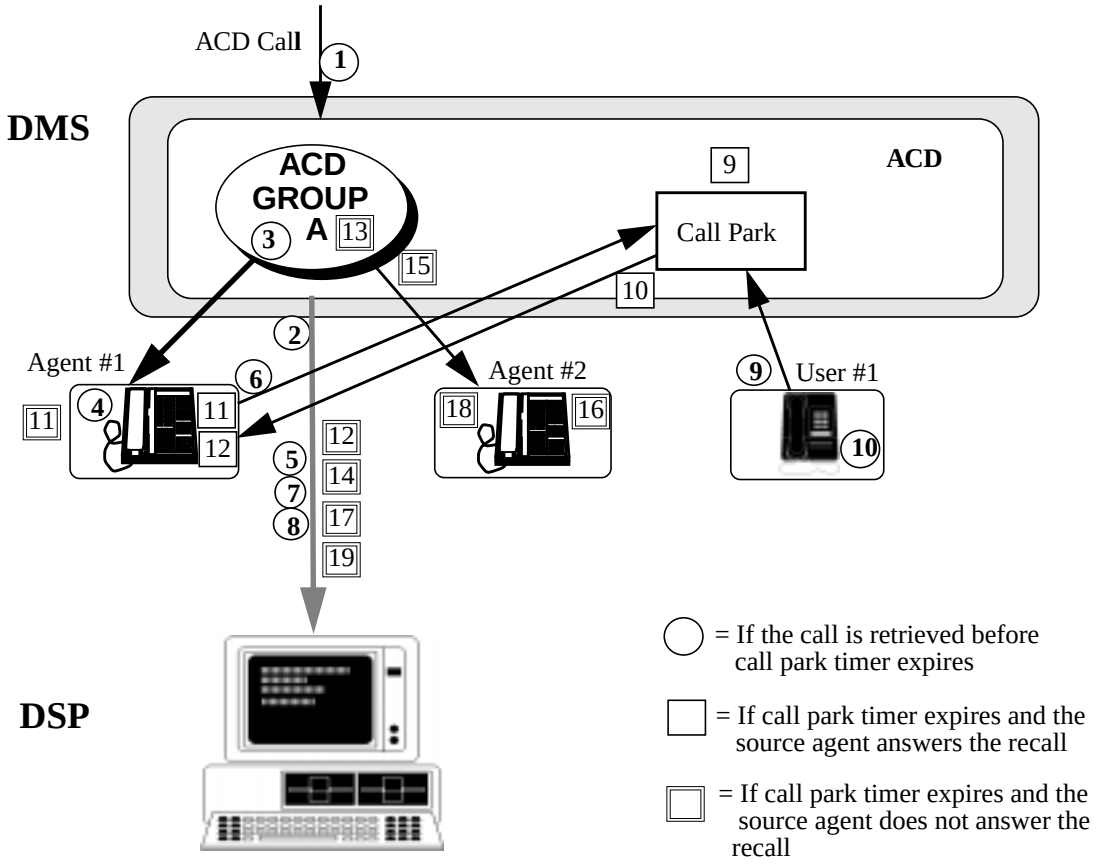
- CALL_ANSWERED_SGRP_DN is Primary ACD DN of group A
- CALL_ANSWERED_DGRP_DN is Primary ACD DN of group A
- CALL_ANSWERED_AGPOSID is agent #2
- CALL_ANSWERED_CSTATUS is XFR RCL
- CALL_ANSWERED_CALLING_NUMBER is the caller's directory number if operating with E911

18 Agent #2 releases the call

19 **ACDCallReleased** sent to DSP

- CALL_RELEASED_GRP_DN is Primary ACD DN of group A
- CALL_RELEASED_AGPOSNID is agent #2's position ID
- CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911

7.29 Scenario 19: ACD Call Parked by Agent with Recall Feature to Non-ACD DN



7.29.1 Procedure 19

1 ACD call received by the switch - call offered to ACD Group A

2 **ACDCallOffered** sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_CSTATUS field is zero (call to be presented to agent position without queueing).

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

3 Agent #1 selected

4 Agent #1 answers the call

5 **ACDCallAnswered** sent to DSP

— CALL_ANSWERED_SGRP_DN is Primary ACD DN of group A

— CALL_ANSWERED_DGRP_DN is Primary ACD DN of group A

— CALL_ANSWERED_AGPOSID is agent #1' position ID

— CALL_ANSWERED_CSTATUS is zero (normal call)

— CALL_ANSWERED_CALLING_NUMBER is the caller's directory number if operating with E911

6 Agent #1 uses DCPK to park the call. The call is parked against user #1's DN and released from agent #1, the call park recall timer is started.

7 **ACDCallReleased** sent to DSP

— CALL_RELEASED_GRP_DN is Primary ACD DN of group A

— CALL_RELEASED_AGPOSNID is agent #1

— CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911

8 **ACDCallParked** sent to DSP

— CALL_PARKED_OGRP is Primary ACD DN of group A

— CALL_PARKED_SGRP is Primary ACD DN of group A

— CALL_PARKED_DN is user #1's directory number (if DCPK is used by agent #1)

— CALL_PARKED_SRC_AGPOSNID is agent #1's position ID

7.29.1.1 Call parked by agent and retrieved before call park recall timer expires:

Note: Use circled numbers on the diagram.

9 User #1 retrieves the parked call from any set before the Call Park Recall timer expires.

10 User #1 releases the call

7.29.1.2 Call parked by agent, call park recall timer expires and the source agent answers the recall:

Steps 1. through 8. are the same as Section 7.29.1.

Note: Use boxed numbers on the diagram.

9 The call park recall timer expires and User #1 does not answer the call

10 The call is redirected to Agent #1.

11 Agent #1 answers the call

12 Agent #1 releases the call

7.29.1.3 Call parked by agent, call park recall timer expires and the source agent does not answer the recall:

Steps 1. through 10. are the same as Section 7.29.1.2.

Note: Use double-boxed numbers on the diagram.

11 Agent #1 does not answer the call and is logged out by the switch

12 **AgentPositionEvent** sent to DSP

- ACD_GROUP_DN Primary ACD DN of group A
- POSITION_EVENT_AGPOSNID is the position ID of agent #1
- POSITION_EVENT_EVENTTYPE field is fifteen (forced logout because of no answer)
- POSITION_EVENT_DN_TAG field is other than 1 (agent used an SDN key)

13 The call is re-queued on ACD group A with highest priority

14 **ACDCallOffered** sent to DSP

- CALL_OFFERED_SGRP_DN is Primary ACD DN of group A
- CALL_OFFERED_DGRP_DN is Primary ACD DN of group A
- CALL_OFFERED_CSTATUS field is 17 (park recall)).
- CALL_RECALL_DN = User #1's DN
- CALL_RECALLED_AGPOSNID = agent #1's position ID

15 Agent #2 selected

16 Agent #2 answers the call

17 **ACDCallAnswered** sent to DSP

- CALL_ANSWERED_SGRP_DN is Primary ACD DN of group A
- CALL_ANSWERED_DGRP_DN is Primary ACD DN of group A
- CALL_ANSWERED_AGPOSID is agent #2
- CALL_ANSWERED_CSTATUS is PARK RCL
- CALL_ANSWERED_CALLING_NUMBER is the caller's directory number if operating with E911

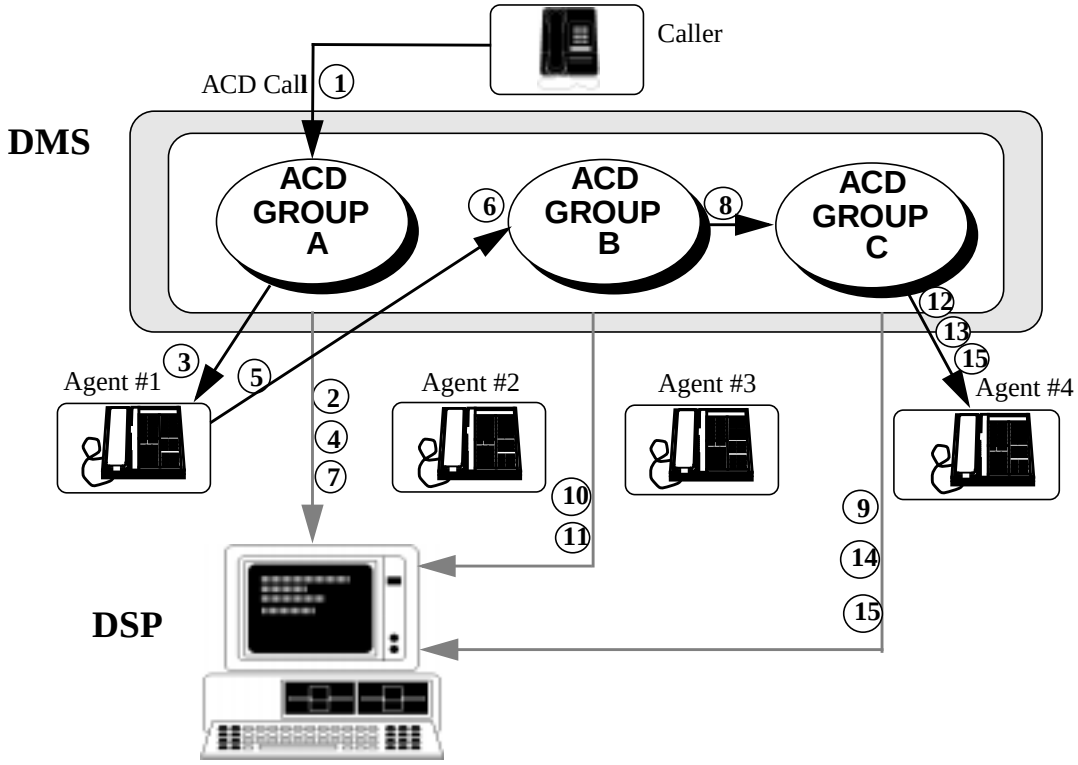
18 Agent #2 releases the call

19 **ACDCallReleased** sent to DSP

- CALL_RELEASED_GRP_DN is Primary ACD DN of group A
- CALL_RELEASED_AGPOSNID is agent #2's position ID

— CALL_RELEASED_CALLING_NUMBER is the caller's directory number if operating with E911

7.30 Scenario 20: Immediate Timed Overflow on call transferred by an agent to another Group



7.30.1 Procedure 20

This is a situation where a call is transferred by agent #1 to Group B. Groupb B has no agents and its Timed Overflow time set to 0. This forces the transfer to immediately time overflow to Group C.

1 ACD call received by the switch

— call offered to ACD Group A

2 **ACDCallOffered** sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_CSTATUS field is zero (call to be presented to agent position without queueing)

— CALL_OFFERED_ACD_DN is the Primary or Supplementary ACD DN of the call at the source group

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

3 Agent #1 selected

— Agent #1 answers the call

4 **ACDCallAnswered** sent to DSP

— CALL_ANSWERED_SGRP_DN is Primary ACD DN of group A

— CALL_ANSWERED_DGRP_DN is Primary ACD DN of group A

— CALL_ANSWERED_AGPOSID is agent #1

— CALL_ANSWERED_CSTATUS is zero i.e., normal

— CALL_ANSWERED_CALLING_NUMBER is the caller's directory number if operating with E911

5 agent #1 transfers call to ACD Group B

6 Call offered to ACD Group B

7 **ACDCallTransferred** sent to DSP

— CALL_TRANSFER_SRC_DN is Primary ACD DN of group A

— CALL_TRANSFER_DST_DN is Primary ACD DN of group B

— CALL_TRANSFER_SRC_AGPOSNID is agent #1

— CALL_TRANSFER_STATUS is one (transfer out from Agent to ACD group)

— CALL_TRANSFER_DIFF_CUST_GROUP is zero i.e., transfer within the same customer group

— CALL_TRANSFER_CALLING_NUMBER is the caller's directory number if operating with E911

8 Call Overflowed by Immediate Timed Overflow (Time Delay overflow = 0, No agents available)

— Call is Offered to ACD Group C

9 **ACDCallOffered** sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group B (group the call is physically queued)

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group C (group now servicing the call)

— CALL_OFFERED_CSTATUS field is zero (call offered to agent without queueing)

— CALL_XFERRING_PARKING_DN is Primary ACD DN of group A

— CALL_XFERRING_PARKING_AGPOSID is agent #1

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

10 1**ACDCallOffered** sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group B

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group B

— CALL_OFFERED_CSTATUS field is twelve (transferred call to be presented to agent position without being queued)

— CALL_TRANSFER_STATUS is one (transfer in to ACD group from Agent)

— CALL_TRANSFERRING_DN is Primary ACD DN of group A

— CALL_TRANSFERRING_AGPOSID is agent #1

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

11 **ACDCallNetworkAnswered** sent to DSP

— source and destination ACD group fields are the same as in (10)

— CALL_NETWORK_ANSWERED_CSTATUS is 8 i.e. TIMEOVFL

— CALL_NETWORK_ANSWERED_CALLING-NUMBER is the caller's directory number if operating with E911

12 Agent #4 selected

— call presented without being queued in the incoming queue

13 Agent #4 answers the call

14 **ACDCallAnswered** sent to DSP

— source and destination ACD group fields are the same as in (9)

— CALL_ANSWERED_CSTATUS is 01,
i.e. L_QUEUED

— CALL_ANSWERED_AGPOSID is agent #4

— CALL_ANSWERED_CALLING_NUMBER is the caller's directory number if operating with E911

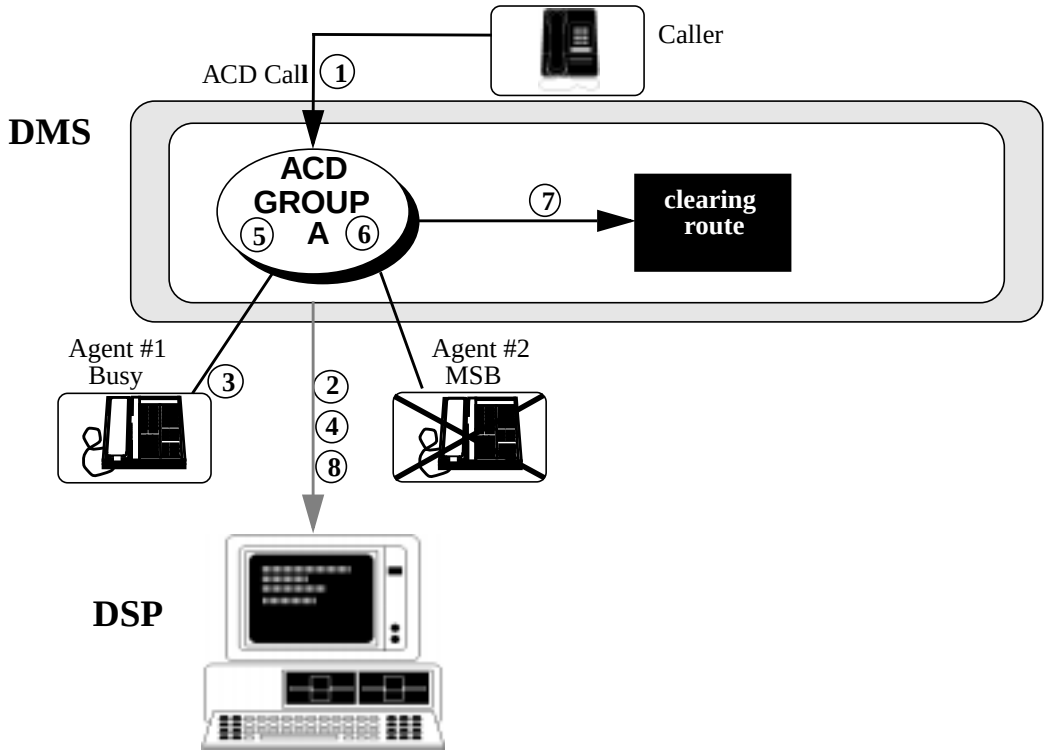
15 Agent #4 releases the call - using Release key

16 **ACDCallReleased** sent to DSP

— CALL_RELEASED_NRDY flag field is zero (ACDNR key was not used)

— CALL_RELEASED_AGPOSID is agent #4

7.31 Scenario 21(A): Calls still queued when all agents are logged out



7.31.1 Procedure 21(A)

This is a situation where the Queue to Make Set Busy (QTOMSB) option is not set. FRCNGTSV is datafilled to yes and CLRRTE is set. Agent #1 is the only active agent left to receive calls. All other agents are in Make Set Busy.Scenario 21(B):Calls still queued when all agents are logged out

1 ACD call received by the switch

— call offered to ACD Group A

2 **ACDCallOffered** sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_CSTATUS field is one (call is being queued at the destination ACD group's Incoming Call Queue)

— CALL_OFFERED_ACD_DN is the Primary or Supplementary ACD DN of the call at the source group

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

3 Agent #1 activates the MSB feature

4 **AgentPositionEvent** sent to DSP

— POSITION_EVENT_EVENTTYPE field is seven (Make Set Busy activation)

5 ACD Group is put in Night Service

6 5 Second Incall Queue timer expires

7 Call is Routed to the Clearing Route

— Caller may receive announcement

— Call is cleared

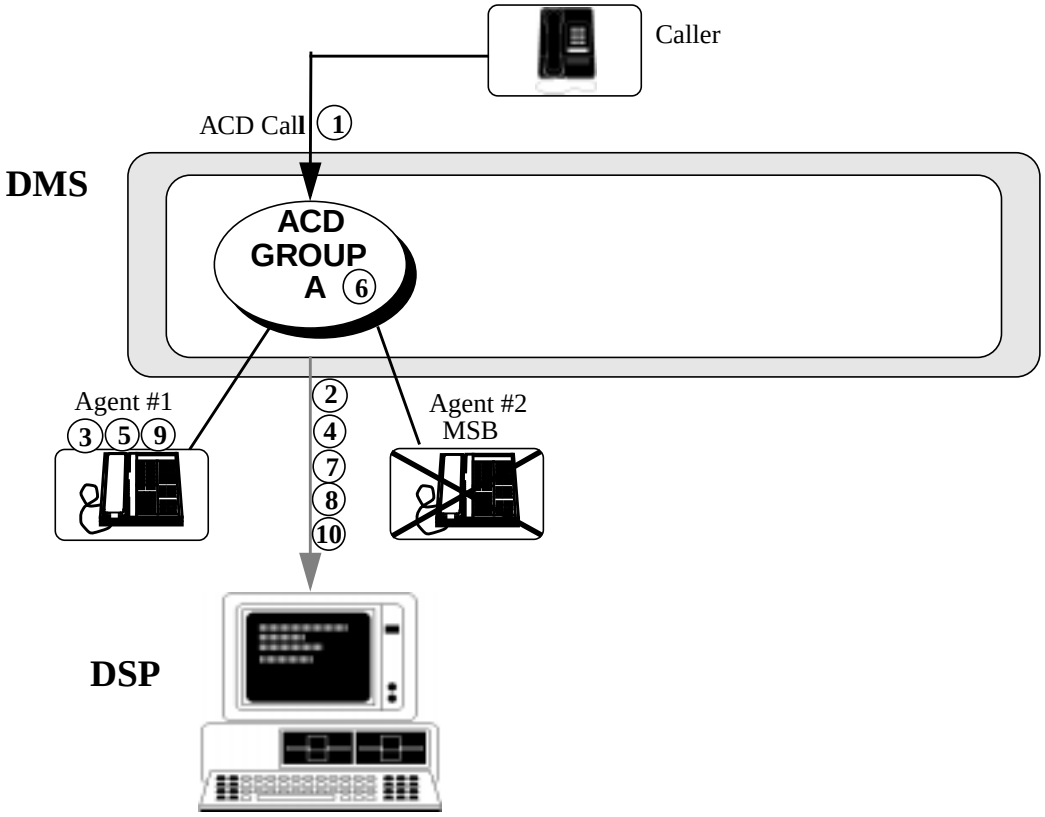
8 **ACDCallBlocked** sent to DSP

— CALL_BLOCKED_SGRP_DN is Primary ACD DN of group A

— CALL_BLOCKED_DGRP_DN is Primary ACD DN of group A

— CALL_BLOCKED_CALLING_NUMBER is the caller's directory number if operating with E911

7.32 Scenario 21(B): Calls still queued when all agents are logged out



7.32.1 Procedure 21(B)

This is a situation where the Queue to Make Set Busy (QTOMSB) option is set and the ACDNR option is not assigned to Agent #1. Agent #1 is the only active agent left to receive calls. All other agents are in Make Set Busy.

1 ACD call received by the switch

— call offered to ACD Group A

2 **ACDCallOffered** sent to DSP

— CALL_OFFERED_SGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_DGRP_DN is Primary ACD DN of group A

— CALL_OFFERED_CSTATUS field is one (call is being queued at the destination ACD group's Incoming Call Queue)

— CALL_OFFERED_ACD_DN is the Primary or Supplementary ACD DN of the call at the source group

— CALL_OFFERED_CALLING_NUMBER is the caller's directory number if operating with E911

3 Agent #1 activates the MSB feature

— Incoming Calls remain in the Queue

— Night Service is not activated

4 **AgentPositionEvent** sent to DSP

— POSITION_EVENT_EVENTTYPE field is seven (Make Set Busy activation)

After a short time

5 Agent #1 depresses

— the Make Set Busy key

— then the INCALLS key

— agent receives dial tone and enters login Id

6 Login Id is verified by the switch

— if it is valid, MSB is deactivated and Agent #1 is placed automatically in the ACD “idle” queue

7 **AgentPositionEvent** sent to DSP

— POSITION_EVENT_AGPOSNID is agent #1

— POSITION_EVENT_EVENTTYPE is zero (agent login)

8 **AgentPositionEvent** sent to DSP

— POSITION_EVENT_AGPOSNID is agent #1

— POSITION_EVENT_EVENTTYPE is three (Not Ready deactivation)

9 Agent #1 selected

— call is presented

— Agent #1 answers the call

10 **ACDCallAnswered** sent to DSP

— CALL_ANSWERED_SGRP_DN is Primary ACD DN of group A

— CALL_ANSWERED_DGRP_DN is Primary ACD DN of group A

— CALL_ANSWERED_AGPOSID is agent #1

— CALL_ANSWERED_CSTATUS is zero i.e., normal

— CALL_ANSWERED_CALLING_NUMBER is the caller's directory number if operating with E911

Glossary

ACD Automatic Call Distribution is a feature package on the DMS-100/SL-100 system which provides an equal distribution of calls to a predesignated set of answering positions.

ACD Agent Queues Within each ACD group, four agent queues of agent positions are maintained according to agent status while agents are logged in.

ACD-DN ACD Directory Number is a directory number used to call an ACD group. Up to 17 ACD-DN are permitted for each ACD group, with a priority assigned to each one. Only one primary DN is allowed for each group and it is used as an index to the groups associated data. Up to 16 supplementary DN's may be assigned

ACD Group A group of ACD agent positions assigned to answer incoming ACD calls. An SL-100/ DMS-100 Centrex switch can have up to 256 ACD groups. The maximum number of ACD groups will increase to 1024 with the release of CCM07 for the DMS-100 switch.

ACD-MIS ACD Management Information System is a system that allows the DSP to request and assemble ACD information, generate reports and to remotely control an ACD configuration.

ACD Name A name associated with an ACD-DN of an ACD Group. This name is used for the ACD Called Name/Number display feature.

ACD Not Ready Key A feature key assignable to an ACD agent position. Activation of this feature prevents ACD calls from being presented to the ACD set, allowing the agent time to complete pre/post call activities. If the ACDNR key is activated during an active call, the call is (optionally) terminated.

ACD Key An ACD feature key assignable to an ACD agent position and/or supervisor position.

ACD Set A Meridian Business Set (MBS), a 500 or a 2500 set used by an agent or supervisor.

ACDSHOW Commands available to the ACD administrator at the switch to display and configure up-to-date information on the current ACD configuration. Note that these are not available to the DSP supervisor.

ACD Subgroup A software defined set of ACD agent positions within an ACD group linked to one supervisor. Up to 255 subgroups are allowed within one ACD group.

Agent Position An ACD set which is a member of an ACD group, and is designated to answer incoming ACD calls by having the INCALLS key assigned as key number 1.

ASCII An American Standard Code for Information Interchange defined data communications code set.

Audio Group An audio group assigned to an ACD group is used for giving announcement/music to queued callers.

BCS Batch Change Supplement is a software release for the SL-100/ DMS-100 switch.

Call Deflected Incoming ACD call that is routed to another group or destination (non-ACD line, announcement or busy treatment) due to Queue/Wait Threshold being exceeded, the group being in Night Service or in a Controlled Interflow (CIF) state).

Call Time Overflowed ACD call that has exceeded the Time Delay Threshold is 'logically' overflowed to another ACD group. At this point, either group may answer the call.

Called Name/Number An option assigned to an ACD group which allows for the display

Display Option of the ACD-DN Name/Number Called information.

CIF Route Controlled Interflow route - a supervisor may choose to deflect all new incoming calls to another route by depressing the CIF key. As long as the group is in Controlled Interflow, all new calls will be directed to the appropriate CIF route.

Clearing Route A route used to clear calls from the ACD queue. It can allow for a special announcement or message to be given for situations where all agents are logged out and normal night service treatment should not be invoked.

CLLI Common Language Location Identifier

CompuCALL Is an OSI application level interface between the switch and an external device e.g., host that enables the establishment of co-operative applications for the end users.

CPK Call Park is a feature that can be described as having two major components, call park store and call park retrieve. It allows the call to be parked against the feature originator's DN and retrieved from any set by entering the same DN.

CTQ Call Transfer priority Queue. This queue holds all calls awaiting transfer to agents in an ACD group. A call in this queue is presented to an agent when the agent becomes idle, before any other call that may be in the ACD queue.

Data link Communication link suitable for transmission of data.

Data Stream Collection of data to be routed to the same communication link.

DCPK Directed Call Park. This feature can be described as having two major components, call park store and call park retrieve. It allows the call to be parked against any DN and retrieved from any set by entering the same DN.

DISPDIGS Option DISPDIGS is a value (range 0-7) indicating the number of digits to display for the ACD Called Name/Number Option.

DMS-100 A DMS-100 Family central office switch.

DSPA Down Stream Processor collects and stores ACD call related and position event messages for operation of real-time screens and historical reports. It also allows for remote control of the ACD operations.

DV-MAKE-CALL A CompuCALL message in the direction from the host to the switch which initiates an outbound call for an ACD agent. The ACD outbound call appears on the agent's INCALLS key.

Emergency Key A feature key assignable to an ACD agent position. The Emergency Key (EMK) feature enables an ACD agent to immediately conference a supervisor or automatically connect a tape recorder to the call, i.e. in the case of an abusive caller.

EMK Emergency Key

Enhanced Overflow A customer can data-fill up to four ACD groups in the RouteEnhanced Overflow Route List, used when incoming calls can't be queued at the group because the MAXWAIT or MAXSIZE has been exceeded. This same route list is used or Call Time Overflowed calls.

FIAUDIO GroupForced Incoming Audio Group is the audio group used to give announcements to every incoming ACD call to the group using this feature.

FIOUDIO Group Forced Overflow Audio Group is the audio group used to give announcements to deflected ACD calls.

FIFO First In First Out

IBNRTE IBN Route is a DMS-100/SL-100 term referring to trunk routes which are associated with private networks.

Incoming Call Queues Four incoming call queues, each assigned a different priority (Priority 0 - 3), are associated with each ACD group. Calls are placed in a queue when no agent is available to answer them. Calls are removed from a queue as agents become available.

LOB Line Of Business Code, currently is a 3-digit code which may be entered by the ACD agent to associate a call with a particular service, i.e., for billing and reporting purposes.

Logical Calls A call which is time overflowed to another ACD group. Also referred to as a 'virtual' call. A logical call that is overflowed to another group will be placed in the Overflow In Queue of the destination group if no agents are available.

Make Set Busy A feature key assignable to an ACD agent position. Activation of this feature logs the agent out, preventing the agent position from receiving ACD calls.

MAP A Maintenance and Administration Position is a workstation for user interface to the DMS-100/SL-100.

MAXCQSIZE The maximum number of calls that can be queued in the Incoming Call Queue at any one point in time. Note that this is the physical queue size i.e., calls physically queued at the group.

MAXVQSIZE The maximum number of calls that can be queued in the Overflow In Queue at any one point in time. Note that the calls are virtual as the physical call remains at the source group.

MAXWAIT The maximum time a call should have to wait in the Incoming Call Queue before being presented to an agent position.

MBSA Meridian Business Set is a set with multiple keys. Each key can be assigned to a directory number (DN) e.g., INCALLS key, SDN or a feature e.g., Not Ready, EMK. The keys are identified by the switch through numbers (range 1 - 64).

NACD Network Automatic Call Distribution is an enhancement of ACD which provides intelligence for handling and overflowing incoming and queued calls by ACD groups, as well as provides automatic and dynamic real-time load balancing of the calls.

Nibble A nibble is equal to half a byte.

Node Another name for 'switch', which includes SL-100/DMS-100 Centrex switches.

NRONSDN Not Ready ON SDN. This can be assigned to an ACD group and allows an agent belonging to the ACD group to automatically put the Agent Position in Not Ready state when originating a call on the SDN on the set.

NSROUTE The route specified by the customer to which ACD calls are deflected if the ACD group is in night service.

OFRT Office Route is a DMS-100/SL-100 term referring to trunk routes which are associated with the public switched network.

OVFLTYPE Overflow type indicates how time overflowed calls are handled. There are two types of overflow:

1) Overflow of all priority calls
2) Overflow of priority 0 calls only

OSI Open System Interconnection

Overflow In Queue This queue holds calls that are 'time overflowed' or 'logically' overflowed from other ACD/NACD groups. The entries in this queue are 'logical' or 'virtual' calls, as the physical call remains at the source group. If all priorities of calls (0-3) are overflowed, this queue is divided into four priority queues.

Overflow Out Queue This queue holds calls which have been time overflowed by Queue this group. The physical call resides here and a logical call request is overflowed to the destination group Overflow In Queue. This queue is serviced first unless the oldest call must be answered first.

PAQ Personal Agent Queue is a partitioning of the Call Transfer Agent Queue (CTQ) on a per agent basis and it represents the total of calls within the CTQ a particular agent may have at any one time.

PBX Private Branch Exchange - private telephone exchange serving extensions in an organization and providing access to the public network.

Physical Calls A direct incoming ACD call.

Primary ACD-DN The ACD-DN which identifies a particular ACD group. An ACD group must have a Primary ACD-DN assigned before any supplementary DN's may be assigned.

PRIOPRO Priority Promotion is optionally assigned to an ACD group. When assigned, lower priority calls are eligible to be promoted to higher priorities, to enhance answer capability.

PWF Preference Weighting Factor is used to allow NACD customers additional control over the selection of the ACD group within the network that a call may route to.

QUEUE_THRESHOLD Maximum Queue size Threshold - The maximum number of calls which can be queued while incoming calls are treated on the node only. When this value is exceeded, incoming call are given network services.

RAN Recorded Announcement

RANTH RAN Threshold is the number in seconds a caller receives audible ringing prior to hearing a recorded announcement. If this value is set to 0 the caller receives a recorded announcement immediately.

Real Facility Groups This refers to DMS trunking facility which consists of physical trunks.

Restart (Switch) Relevant types of switch restarts from the ACD-MIS perspective are warm restart, reload restart and cold restart. Warm restart is the least severe of the restarts. In the case of warm restart all ACD agent positions that were logged in before the restart are still logged in after the switch recovers from the restart. A cold restart is more severe than a warm restart, the switch attempts to recover automatically the ACD agent log in status after the restart and automatically logs out all positions which failed the recovery and reports through ACD-MIS those ACD agent positions that have failed the status recovery to idle. A reload restart is more severe than a cold restart, the switch does not attempt to recover automatically the login status of the ACD agents and automatically logs these ACD agent positions out.

RI Resource Index is the switch calculated value reflecting a NACD group's ability to answer calls.

RO An RO or Remote Operation is a task requested by one processor e.g., the down-stream processor (DSP) but performed by another processor e.g., DMS. An example of this is DSP request to change an ACD parameter.

SUPPDN Supplementary ACD-DN - Up to 16 allowed per ACD group, with a priority (0-3) assigned to each DN.

SDN A Secondary Directory Number which is an optional non-ACD directory number assigned to a feature key on an MBS.

SL-100 A Northern Telecom PBX based on DMS-100 Family technology.

SNPA Serving Number Plan Area is equivalent to the long distance Area Codes given in the telephone book.

SUBGROUP A group of ACD agents within an ACD group that is assigned to one supervisor.

SUBPOOL One pool, of MIS stream may be divided into one or many subpools. Each subpool has an associated password for security purposes. One or more ACD groups may belong to a subpool.

STDVC Standard Virtual Circuit - A virtual communication link which connects the Switch with the DSP. It must be set up by a specific call request.

Switch Refers to an SL-100 PBX or DMS-100 Centrex switch.

THROUTE Threshold Route specifies the routing for calls which cannot be queued or overflowed (via Enhanced Overflow) from this ACD group.

TMDELOVFL The maximum time a call waits in the Incoming Call Queue before being time delay overflowed, and queued at another ACD group.

TMDTHRTE Time Delay Threshold Route is the route used for Time Delay overflow calls which remain unanswered for a designated time.

TMDTHRTIME The maximum time a Time Delay Overflowed call remains enqueued, once overflowed, before it is removed from both the source and target group queues and rerouted to the Time Delay Threshold Route (TMDTHRTE).

TOD The time of day is in a 24-hour format: 00:00:00 - 24:00:00. in hours: minutes: seconds.

VC Virtual Circuit is a circuit that is associated with a X.25 communication path. The X.25 protocol supports up to 256 virtual circuits per physical link.

VFG Virtual Facility Group - A Switch term that refers to a software throttling mechanism for controlling trunk usage.

VTG Virtual Trunk Group - see VFG.

WAIT_THRESHOLD Maximum Wait Threshold - The maximum time limit in which a call can wait while incoming calls are treated by the group. When this value is ex

WRPTIME Wrap-Up Time is the amount of time from the time an ACD call is completed and a new ACD call is presented to an agent.

Bibliography

1. CCITT Recommendation X.219 and X.229 - ’Remote Operation Procedures’.

2. CCITT Recommendation X.208 - ’Abstract Syntax Notation One’.

3. CCITT Recommendation X.209 - ’Basic Encoding Rules’.

DMS-100 / SL-100
ACD-MIS
Interface Specification

Document number: NIS-Q209-2
Document version: 11
Date: April 1999
Published in United States of America

NORTEL
NORTHERN TELECOM